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New International Programs in Public Health*

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THE fact that an Assistant Secretary of State for Economic Affairs has been invited to speak to the members of this Association throws into bold relief an important development in international relations. I am here today because world-wide health improvement has become a major concern of American Foreign Policy. Health has become recognized as a major factor in economic and social progress through the world—and thus in the preservation of peace.

This concern of your government for the health and well-being of other peoples as well as our own is not a phenomenon that has suddenly arisen out of the current conflict with Communist imperialism. That struggle has helped to focus public attention on unsatisfactory living conditions on which Communism feeds. It has intensified both our awareness of these conditions and our efforts to improve them. But it is not the primary cause of our active and vital interest in the economic and social progress of other peoples.

The American people and their government went out to do battle with disease long before the Communist menace assumed such threatening proportions. We will be engaged in that battle long after the Communist threat has receded into the past. This is true because our interest and our stake in the well-being of other people is based on something even more fundamental than a determination to beat back the encroachments of an evil tyranny.

It is based on a deep conviction that the very survival of our democratic society depends upon the creation of a free, peaceful, orderly, and prosperous world society. That is the aim of our foreign policy.

It would be a happy situation indeed if we could assume the existence of peace in the world, and dedicate all our efforts toward social and economic progress. But that is not the present nature of the world in which we live. We have had too clear a demonstration of the grasping ambition of the Communist empire builders, operating through direct and indirect aggression. The peace of the world is under continuous threat, and the immediate requirement of our foreign policy must be to find ways and means to discourage

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aggression and to stop it if need be. We are not alone in this desire. The General Assembly of the United Nations is considering and certainly will approve stronger and more effective methods for preserving the peace. Back of that, must be sufficient national and collective strength to deter any potential aggressor from embarking on the path of conquest and destruction.

But this is only one side of our foreign policy. The second, and no less important requirement, is the constructive effort to strengthen the economic and social foundations of the free world and so eventually to remove the basic causes of unrest, conflict, and human suffering. We Americans are builders. We like positive goals. To us, the concept of peace is important not merely because it involves the absence of war, but also because it offers the opportunity for man to progress and realize a fuller and better life.

There is a strong humanitarian element in our effort to do our part in the making of a peaceful, happy world. But a stronger motivating force is self-interest.

Take the matter of your major interest—public health. Until recently we concentrated our effort to keep communicable diseases from invading our country by means of a system of quarantine. This is an expensive process, and not always fully effective. The problem became acute with the swifter tempo of travel. A person can fly around the world today in less time than is required for the incubation of many diseases. New thinking and better measures are demanded of us.

Instead of trying to stop plagues at our own doorstep, we are sending our medical officers, nurses, sanitary engineers, and technicians into areas where disease is rampant. Thus Americans are helping colleagues abroad to beat back and eventually to eliminate scourges which are a potential threat to us as long as they exist anywhere. This strategy is soundly based on the advances of modern science, which make possible the virtual elimination of the major communicable diseases of the world, whenever mankind decides to put forth the effort and the money necessary to do the job.

Money put into international health work is an investment that pays high dividends. In low-wage tropical America annual losses in productivity due to malaria have recently been evaluated at $3.78 per capita. An expenditure of 25 cents per capita could prevent malaria. In India the loss of wages plus expenses for medicine have been estimated at $2 per capita per year. This does not include the loss of working output nor the depression of agricultural production due to malaria. It is estimated that the 20 cents per capita recently spent by Ceylon for dusting the island with DDT and thus reducing malaria has given, at the lowest estimate, an immediate tenfold return without counting increased agricultural output.

Public health improvement of underdeveloped countries constitutes an excellent investment not only for the country concerned but also for others. Dr. Paul Russell, one of our well known malaria experts, has stated that any imports into the United States from malaria-ridden countries carry "a hidden malaria tax of about 5 per cent" due to increased cost of production under such conditions. This would mean that in 1938 malaria in foreign countries cost the United States $175,000,000. Today it is probably more. That is a huge sum in comparison with what we are now spending on health improvement outside our own country.

Disease is not the only foe of humanity that can be met and overcome. Its ally, hunger, is another age-old enemy that oppresses man, despite the fact that science, technology, and common sense have provided the means of deliverance.

No estimate can adequately reflect the enormous losses of energy, vitality, and productivity that result from malnutrition, sapping the strength and undermining the health of millions more.

The tragedy is that the ruinous cost of hunger in human suffering and economic stagnation is largely preventable. The planting of good seed could alone raise the production of foodstuffs throughout the world by 10 per cent. Proper preservation and storage could save the 10 per cent of the world grain yield that today is destroyed by insects, rodents, and mold. These gains are in addition to those possible through fertilization and other improved farming practices.

In this matter, also, we can assist and are assisting those who seek our aid. In our own self-interest, we cannot be content with the abundant production and bulging barns of our American farms while hunger haunts those who, in a world grown dangerously small, are our next door neighbors. We ignore their plight at our own peril.

How, then, are we to help? Which is cheaper in the long run: to produce, gather, and ship a cargo of grain from America to people threatened with starvation but unable to pay for the food they must have to live; or to send some of our agricultural technicians to help those people produce sufficient food for themselves by their own efforts?

It may be that the inhabitants of one drought-ridden section of a large country are desperate for food, while another section of the same country has a surplus that cannot be moved for lack of transportation facilities. Isn't the sensible solution in this case to offer engineers to help that country plan and build a transportation system adequate to its needs?

Take the matter of education—not just technical education or even secondary school education—but enough education to enable a person to read and write and sign his own name. In some of the underdeveloped countries, the illiteracy rate is as high as 90 per cent of the population.

How can you teach people the principles of personal sanitation and preventive medicine if they cannot read? I suppose it can be done, but I am sure it can be done more quickly and effectively if the people you want to reach are literate. How can you spread information about modern agricultural methods among millions of farmers who cannot read and write? This would have been a slow and painful process in our own country without the farmers' bulletins which have been one of the most effective instruments of our extension service. How can a tenant protect himself from a grasping landlord or a rapacious money-lender if he cannot read a contract?

Illiteracy is a massive road-block in the way of progress in the underdeveloped areas; yet we have convincing evidence that it is not insurmountable. American educators, working with their colleagues in the requesting country, have helped several governments in Central and South America to work out practical plans for reorganizing their school systems almost from the ground up. These joint projects have been tried out in rural communities, and have stood the supreme test—they even make children *like* to go to school.

There are other forms of technical cooperation that can help a people to raise its living standards: surveying of mineral resources, flood control and irrigation, power production, vocational training, industrialization, utilization of labor, social welfare, and, last but not least, public administration. Moreover, adequate capital, either local or foreign, must be invested in the development which makes economic and social progress possible.

Technical coöperation itself helps to create the conditions that make an area

attractive to capital. Healthy, well fed literate workers are much more productive than sickly, undernourished, and illiterate workers. Vigorous, productive, ambitious people are more likely to produce economic goods and obtain purchasing power. Communities organized and administered on modern lines are more likely to welcome and absorb the benefits of capital development.

Three basic fields in which people must progress in order to achieve better living conditions are health, food production, and education. These are interdependent and mutually supporting. People who are sickly and weak cannot produce efficiently and have little interest in learning. People who are poorly fed are more susceptible to disease and indifferent to education. People who are ignorant will not readily understand the reasons for sanitation and better farming practices. Public health, better agriculture, and education—these are the foundation stones of decent living conditions.

These are the simple, indispensable elements in the standard of living which President Truman had in mind—"more food, more clothing, more material for housing, more mechanical power to lighten their burdens"—when he proclaimed in his inaugural address what has come to be known as Point Four. In that memorable statement, the President called on the nations of the world to undertake a great coöperative effort to help aspiring people to realize their aspirations for a better life. The response to that call has been heartwarming.

The public health profession of the United States, in particular, was ready for that call. As a group its members already had the benefit of a long and instructive apprenticeship in international endeavor.

International health coöperation began, as you know, in the 19th century with efforts to prevent the spread of epidemic diseases. These efforts took the form of sanitary conventions which obligated countries to report the outbreak of cholera, plague, typhus, yellow fever, and smallpox. Treaties of this kind are still in force.

During the years, the responsibility for executing them has fallen successively to three organizations: the International Office of Public Health, established in Paris in 1908; the League of Nations' Health Organization, established in Geneva in 1923; and, now, the World Health Organization.

With the creation of the League of Nations, international health coöperation took on a much broader and more constructive character. At the request of governments, the League Health Organization provided advice on special health problems and the development of national health services. In this work, the League was, in effect, extending into a broader field the work which the Pan American Sanitary Bureau had been carrying on in the Western Hemisphere since 1902.

Today, as I have said, disease must be prevented and eradicated at its source. To do this, nations must have strong national health administrations as well as strong links among them—the kind of links American health technicians have been forging for a generation.

Well before World War II, United States Public Health Service officers started to carry their technical skills abroad. They began to work in Latin American countries, mainly by being loaned to the Pan American Sanitary Bureau. This kind of technical cooperation was greatly expanded during the war by the Institute of Inter-American Affairs. One great merit of the Institute is the perfection of the "servicio" system. In this type of arrangement, a contract is made under which the Institute undertakes to furnish expert personnel and dollar funds for specific projects in a Latin American

country while the host country undertakes to furnish personnel and funds in the form of local currency. The projects may deal with malaria or yaws eradication in a given area. They may be related to the installation of water supply and sewerage systems in a city. The project is usually taken over by the host government when American technicians have shown the way.

During and after the war the United States Government was a leading contributor to public health work abroad through our own Army and through the work of UNRRA. The Economic Cooperation Administration took over UNRRA'S responsibility for aid to Greece and the health part of this program was put into the hands of the Public Health Service.

One achievement has been the reduction of malaria, until recently a major hindrance to the economic progress of the Greek people. Meanwhile, the Public Health Service was given direct responsibility for important programs in Liberia and the Philippine Republic.

These years of experience have prepared the United States Government for rendering effective bilateral aid in the field of public health to foreign countries which need it and want it. Methods and results have been weighed. Administrative procedures have been perfected, and men tested.

We have gained experience, also, in multilateral public health assistance. The World Health Organization was established in July, 1946, and its constitution went into effect in April, 1948. The WHO has had two years of an interim committee existence and two years of experience as a full-grown organization. This year it will spend approximately $6,300,000, which, although inadequate for its huge tasks, is far more than its predecessors ever had. An efficient technical staff has been built up at headquarters in Geneva, under the general directorship of Dr. Brock Chisholm of Canada. In charge of field operations and advisory services is an American Assistant Director General well known to all of you, I am sure, Dr. Martha Eliot.

An active regional organization keeps the WHO in touch with the specific problems which affect the various parts of the world. The Pan American Sanitary Bureau is the regional office for the Western Hemisphere. There is a bureau for the Eastern Mediterranean area at Alexandria, Egypt, and one for South East Asia at Delhi, India. A Western Pacific region is being organized, while European and African affairs are provisionally handled at the Geneva headquarters.

WHO teams are already doing valuable work in many parts of the world. There are malaria, tuberculosis, and V.D. teams in India. There are yaws eradication teams in Indonesia. WHO sanitary engineers are working among the Arab refugees from Palestine. Expert advisers are stationed in many countries. An important fellowship program is slowly building a pool of trained people who are destined to staff national health administrations. In short, the World Health Organization today stands ready to promote a large-scale campaign for health improvements in those parts of the world which need it most.

The success of the WHO's program will depend in part on how closely and how well it can be integrated with the technical coöperation program of the United Nations as a whole. This program, you will remember, was conceived last June at the first Technical Assistance Conference of the United Nations. It was a historic conference, for it sparked the first organized, worldwide enterprise in technical aid to underdeveloped areas. Fifty nations came forward with financial contributions which added up to more than 20 million dollars for the first year. The United States Government is a major

contributor, with 12 million dollars toward the first year's budget.

As the UN program took shape, so too did the other American activities in this field. In May, the Congress approved an Act for International Development, giving effect to the Point Four policy enunciated by President Truman in his Inaugural Address of January, 1949.

In August, Congress approved the first annual Point Four appropriation of 34½ million dollars. And on September 8, President Truman issued an executive order, delegating to the Secretary of State the responsibility for administering the Point Four Program.

In addition, the Congress authorized the ECA to continue its technical assistance activities and to extend them to the area of Southeast Asia. This will be a sizeable program, and health improvement will play an important part of it.

The stage has been set for both bilateral and multilateral action to safeguard life and health beyond our frontiers, and I have made no effort to summarize the many activities under private auspices which have done and will do so much in this field.

There cannot be a single pattern for the various technical assistance projects in all countries. Some, like Turkey, Ceylon, Western Pakistan, and Thailand, have gone a long way toward building up their public health organizations. In certain other countries almost everything remains to be done. In Indonesia, there is only one physician per 70,000 inhabitants and most of the professional personnel of the old health service have left. In many areas, such as India and northern Thailand, malaria is the main obstacle to economic development. In parts of Java it is yaws, which causes the most debility. Careful local planning is necessary, therefore, in every case.

Technical coöperation activities must be a harmonious whole. All the elements concerned must work together, both by fields of activity such as health, education, agriculture, industry, and by organizations, private, national and international. Funds, equipment, and supplies are indispensable. But the greatest need will be for people who are not only good technicians but good teachers; people who are not only good Americans, but good internationalists. The Public Health Service will backstop these programs as far as it can, but it has not enough personnel to do it alone.

That is why I come to you with an appeal. You have been leading this great popular movement which has made our cities and counties rate among the healthiest in the world. We hope and expect that when the time comes, and it will be soon, public health workers from our states, cities, and counties, and from our private health institutions too, will volunteer to go out and take their places in this unique enterprise in building a healthier world. It may be for a special quick tour of duty, or it may be to help on a continuing project. The degree of accomplishment is likely to be limited chiefly by the scarcity of competent personnel.

In appealing for your participation, I can give you as yet only a very general idea of the numbers of skilled people who will be needed. The United Nations will call upon people from many countries, but we know that they will need many from the United States. Under United States Government auspices, there are today well over 150 American health technicians of all kinds out in the field on technical assistance projects. By next June we hope to have sent out an additional 300 new people, not counting replacements. While the number may be small, the rate of increase is what counts, and we expect that it will be proportionately larger in the following year. These figures do not, of course, include the many who have gone abroad

under private auspices, and whose ranks we hope will be correspondingly augmented.

That is one side of the picture, but there is still another. Your coöperation will be needed also in providing hospitality, orientation, and training to the many visitors, trainees and graduate students who come to our shores to observe and study American techniques and health organization. In the past four months alone more than 500 such people have come to the United States and many more are expected. I am speaking again of those for whom our government has some measure of responsibility. I could not even guess at the number who have come under private auspices. So I think that there will be opportunities for all of you who are here today to play some part, either at home or abroad, in the international field of health improvement.

Let me add another word. There are intangible elements in this enterprise which you alone can furnish. Health is not the product of competent administration alone. It is not brought about by demonstrating the newest techniques with penicillin, nor even by teaching in public health schools, important as that is. It is brought about by knowledge, skill, devotion—and above all by teamwork.

The health officer, the research worker, the practising physician, the nurse, the engineer, the sanitarian, the dentist, the veterinarian, the statistician, and all the specialists of whatever description, are one great team which watches over the health of the American people. That spirit of coöperation has been fostered in the American Public Health Association for 78 years. In many of those countries to which our help must go, that teamwork has never existed. Professional isolationism has been the rule. Perhaps the example of "teamwork"—and the visible proof of its value—may prove our greatest contribution to the welfare of our friends in distant lands.

So let us go forward in this great technical coöperation movement, planning, working, and carrying within us the American ideal of respect for each man, woman, or child, with good will toward all. We shall then be waging peace as never before in history, and on the battlefields of our endeavor we shall count by the millions not the dead, but the lives which have been saved.

Role of Health Services in Civil Defense*

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IT is gratifying to the National Security Resources Board to note the many items, on the program of the 1950 meeting of the American Public Health Association, which are directly or indirectly related to national security. The great contribution which this Association can make to our security program makes your coöperation indispensable to us. In civil defense, for example, many of your members—acting in their official capacities—will be responsible for civilian health protection in the event of attack on this country.

For those of you who only recently have become closely associated with civil defense planning, a brief review of the history of the current organization would seem to be indicated. The first detailed recommendations for a new civil defense program were formulated by a group, headed by the late Russell J. Hopley, in the Office of the Secretary of Defense. Their suggestions were incorporated in the "Hopley Report," published in the fall of 1948, which has served as a good reference source for subsequent workers in this field.

In March, 1949, the function of planning for civil defense was transferred by the President to the National Security Resources Board. There it was assigned to the Civilian Mobilization Office of which the Health Resources Division was also a component.

Later in the year, our health resources planning group was given the additional responsibility of coöperating with the civil defense people by making plans for the health aspects of civil defense.

In the spring of 1950, with the cooperation of the United States Atomic Energy Commission, approximately 148 physicians from 38 states were trained in the medical aspects of atomic warfare. Soon after, approximately 83 specially qualified persons from 33 states were trained in radiological defense measures, with particular emphasis on radiological monitoring. These persons now form, in their states, a nucleus from which training of health personnel and monitoring personnel can proceed throughout the states and cities. A similar group of courses for nurses will begin in December.

Several months ago, the Civilian Mobilization Office of the Resources Board was abolished and two of its components became separate Offices: the Civil Defense Office and the Health Resources Office.

The Health Resources Office continues to have the functions of staff work and studies relating to the allocation, mobilization, and utilization of health resources during a national emergency. These resources include health man power of all types, hospitals and other facilities, and supplies, equipment and similar items. Plans concerning such resources take into consideration such functions as the maintenance of medical care, public health services, and sanitation measures

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for the civilian population during wartime.

In addition, the Office continues to have the responsibility of developing, in coöperation with the Civil Defense Office, plans for civil defense health services.

At the same time that the Health Resources Division was elevated to Office status, the Health Resources Advisory Committee, headed by Dr. Howard A. Rusk, was established.

In June, 1950, an event of considerable importance to the members of the American Public Health Association occurred. At that time, the Resources Board recommended to the governors that they appoint their state health commissioners to be their state civil defense health services directors. It was further recommended that local health commissioners be placed in charge of local civil defense health services.

In the letter to the governors it was explained that the recommendation was made in order that civil defense health services "may be carried on as an official function of the state." The same reasoning would hold in the case of local civil defense services. To date, 37 state health officers have been appointed. We have no data on the number of local health officers to be similarly appointed.

Our recommendation was made with full realization of the heavy additional work that would be involved for already seriously overburdened health departments. It was recognized, however, that such appointments would result in the official health agency being placed in charge of what must be an official, civil government responsibility. In this manner, duplication of efforts would be avoided and continuity—from peacetime to wartime—of authority in crises affecting the public health would be assured.

In September, 1950, the Resources Board presented its general civil defense plan to the President. The President accepted the plan and announced his intention to create a separate Civil Defense Agency.

In the plan, which was published under the title "United States Civil Defense" it is stated: "The Civil Defense program for this country must be in constant readiness because for the first time in 136 years an enemy has the power to attack our cities in strong force, and for the first time in our history that attack may come suddenly, with little or no warning."

This statement emphasizes the need for utmost coöperation by our official health agencies, no matter what may be the cost in personal sacrifice of time and effort. In time of war, civil defense activities will become one of the most important functions of our health departments, federal, state, and local. Following an actual civilian wartime disaster, they would become—within the area involved—the *only* function of these agencies.

The task of planning and establishing an organization for civil defense health services is a gigantic one. The planning and operating areas involve practically all of the skills, knowledge, and experience which you use daily in your peacetime program, and a number of new ones will have to be added.

Civil Defense Health Services include first aid and ambulance services, emergency hospital systems, casualty services, health supply systems (including provision of blood and blood derivatives), laboratory, sanitation, nutrition, veterinary, mortuary, and similar services. They include arrangements for adequate transportation for casualties and health personnel, and for surgical and other essential supplies.

To these varied activities must be added those in another wide area: special weapons defense. Defense against biological warfare is an adaptation of established public health methods, and defense against chemical warfare is an

adaptation of modern therapeutic methods. But defense against atomic warfare presents new and difficult problems.

The treatment of atomic bomb casualties, it is true, depends upon methods now in use for other ailments. Radiological monitoring, city-wide radiological safety measures, and radiological decontamination procedures, however, constitute new and difficult fields. They are rightly made the responsibility of the civil defense health service because the greatest significance of radiological effects of atomic warfare is the damage caused to human life, either directly, or indirectly, through contamination of water, food, and environment. Such damage is primarily of concern to public health workers.

Do not, however, become so engrossed with special weapons defense measures and with the methods of treatment of injuries peculiar to special weapons that you lose sight of what is by far your most important task. This is the provision of an organization, with adequate supplies and hospital facilities, to care for tens of thousands of living casualties, most of whom would be suffering from burns, shock, lacerations and other mechanical trauma. The management of such injuries presents few new therapeutic problems, but the treatment of many thousands of them does present enormous and unprecedented administrative and organizational difficulties.

Many of you have been impatiently awaiting the appearance of the civil defense health services manual to supplement the briefly summarized material on health services which appeared in *United States Civil Defense*. Work on this manual is nearing completion, we are making every effort to finish it as soon as possible, and we hope to have it published in the near future. The temporary delay in its appearance, we feel, will be more than compensated for by its added completeness and accuracy.

The manual will contain detailed suggestions on administratjve and organization needs and methods relating to actual services, and to facilities, equipment, and supplies, for each of the many civil defense health services functions enumerated above. The material should be quite helpful to you, especially in suggesting nation-wide patterns and furnishing guidelines. Remember, however, that each of you will have to adapt these plans to fit your own state or local conditions. Civil defense is the responsibility of civil government and civilians. The local agencies, integrated through the state agency, are the chief functioning units. No amount of nation-wide patterns and guidelines devised by the federal agency will give you a ready-made state or local organization, ready to operate at any time. To achieve this end, will take a great deal of imagination, resourcefulness, and work on the part of such people as you, working either as health officials, as members of health organizations, or as private citizens.

Some steps can, and should be taken immediately. Many of you already have started but, for those who have not, a few general suggestions may be useful.

The first step certainly is that of establishing the top administrative structure, based on the official health agency. The utmost coöperation of state and local medical, dental, nurses, veterinary, public health, hospital and related associations is indispensable. These groups should be used for advisory committees and members should be put in important positions in the organization. Military personnel should not be used for key spots because they would be lost to the organization during wartime. Civil defense is not primarily a military responsibility.

Become thoroughly familiar with all health resources in your area: personnel, including auxiliaries; hospitals, and other facilities; and equipment and supplies.

All critical target areas are encouraged to increase hospital and other current stores of health supplies, particularly consumable surgical and first aid supplies. Detailed recommendations for the types and numbers needed have been devised and will be published in the health services manual.

To support local supplies, federal stores of consumable surgical supplies and related items have been recommended. These would be located reasonably near one or more critical target areas but sufficiently removed from the potential attack zone. They would thus be available to supplement local supplies within a few hours after a wartime disaster.

Initiate mutual aid agreements with nearby cities. Probably none of the special weapons is capable of creating a type of injury or disease beyond our ability to handle on a small scale. But when the scale is in the order of tens of thousands of casualties per weapon, as it might be in the case of the atomic bomb, no city could provide entirely for itself. Outside aid would be needed within the first few hours following the attack. Such aid would be of two types: mutual aid and mobile support.

These were described in *United States Civil Defense*, but in order to be certain that the distinction is clear, let's take these two things separately.

First, mutual aid. Around each critical target area there are mutual aid circles with radii of about 20 to 50 miles. At the time of attack, communities within these circles would spontaneously send their health services into the attacked area. Arrangements for such assistance would have been made in advance, between communities, and their aid would be sent automatically.

Mobile support, on the other hand, is a state responsibility and the state civil defense health services director should take immediate steps to create medical and public health mobile support units. As opposed to the mutual aid assistance which would move into the disaster area without instruction, mobile support would be dispatched by the state. It would take the form of mobile groups that include self-contained teams for police, fire, rescue and health work.

In the creation of health units for mobile support there is a special problem, not common to the other services, and that is an acute shortage of critical personnel. Specialists in most of the other Civil Defense fields can be trained within a short time. This certainly is not true of physicians and nurses. One of the great needs in mobile support will be for self-contained surgical teams. In creating these teams, there can be no sound substitute for surgeons and other skilled professional people. This means that your state will have to coöperate with other states, in order to provide the necessary surgical teams for mobile support in case of attack on one of the cities in your state.

In case of an attack on the metropolitan Detroit area, for example, surgical teams might have to be brought in by air from as far away as Texas. Fortunately this is not equally true of all health units. First aid teams may be organized with the state mobile support circles. If, after examination of the situation, it were discovered that there were not enough physicians to direct first aid teams, the circles for health services purposes might be expanded.

In the presentation of *United States Civil Defense* to the President, W. Stuart Symington, Chairman of the National Security Resources Board, wrote: "Adequate civil defense will require the interest and effort of hundreds of thousands of our people, contributed for the most part on a voluntary basis.

"These citizens will get little material return. Their interest and effort at this time, however, will be both wise and prudent, because until effective international control exists over the use of

modern weapons which can devastate our towns and cities, we must put into action those precautionary measures which past experience and new tests have shown would save thousands of lives in case of attack."

Earlier in this talk, the personal sacrifices which you, as public health workers, might have to make in order to build effective civil defense programs, were mentioned. These tasks are, I believe, an obligation, a duty which you, as guardians of the public health must assume. Every person and every community has a part to play in the civil defense program, and remoteness from critical target areas does not exempt any community from playing its part.

In closing, may I quote again from *United States Civil Defense:*

"Granted a few minutes warning, casualties could be reduced by over 50 per cent through proper organization and training in civil defense.

"More important, civil defense could spell the difference between defeat with slavery for our people and victory in a war thrust upon us."

APHA and ASA Statisticians Meet

Some changes have been announced in the December sessions of the 110th annual meeting of the American Statistical Association in which the statistics section of the American Public Health Association is coöperating. The jointly sponsored sessions and their chairmen are as follows:

Recent Population Changes, Margaret Hagood, Ph.D., U. S. Bureau of Agricultural Economics, Dec. 27, 10–12 a.m.

Sources of Morbidity Statistics, Harold F. Dorn, chief, Biometrics Section, National Institutes of Health, Dec. 27, 4–6 p.m.

Statistical Methods in Medicine, Hugo Muench, M.D., professor of biostatistics, Harvard School of Public Health, Dec. 29, 10–12 a.m.

Lowell Reed, Ph.D., will be one of the discussants in the session on Recent Population Changes. He is a past president of the Population Association of America, as well as of the American Public Health Association and is president-elect of the American Statistical Association.

All meetings will be held in the Congress Hotel, Chicago, from Dec. 27 to 29. Further information and final program from Mortimer Spiegelman, Metropolitan Life Insurance Company, 1 Madison Avenue, New York 10.

Problems of Wartime Disease Control*

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IN attempting to think through some of the problems of wartime disease control, our first impulse was to try to confine the subject to fairly technical limits. It seemed desirable to list, on the one side, the available resources; on the other, in the order of their fundamental importance, the responsibilities that those resources must be called upon to carry out. From a practical standpoint, the problem comes down pretty much to just that. But right there, simplicity ends.

It is necessary for us in the health professions to consider such specific problems as disease control in relation to the total health program and to the total national scene. We need to appreciate the problems of the government and of the nation as a whole in planning and adjusting to the unique situation which we face in mobilizing our defense effort. Never before in our history have we had anything like the present situation. Every previous mobilization has been with the idea of a single supreme effort; each time, we felt that the quicker and more completely we could convert and get things over with, the sooner we could go back to normal progress. We are now faced as a nation and as a health profession, with the problem of building up to a plateau of expanded effort for defense the precise level of which has not yet been determined. Even when determined, the level will not necessarily remain fixed. Indeed, it must be adjusted from time to time to conform to the changing world situation.

Our national policy is based today on the fundamental conclusion that war is not inevitable, and that the way to keep it from coming is through a threefold program: First, to develop adequate military defenses; second, to inaugurate a program of civil defense; and third, to extend technical and economic assistance to the underprivileged peoples of the world so that they may withstand the false promises of communism. Since these programs must be maintained for an indeterminate time in the future, we must inevitably add a fourth; namely, the maintenance of a sufficient level of necessary services to our people so that they will have the strength and the heart to accomplish the tasks before them.

Let us not think for a moment that this bold policy creates problems only for the health professions. Its impacts are felt in practically every field and in every activity. Mr. Leon Keyserling, Chairman of the President's Council of Economic Advisors, recently discussed this policy before the *Herald-Tribune* Forum. He said that the uncertain duration of the crisis confronting the country requires that its industrial power be made stronger so that the heavy military load will become progressively easier to bear and so that the country's economy may be able to withstand some later and greater crisis. He emphasized that since

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civilian efficiency and morale are essential for the defense effort, care must be taken not to cut into the civilian economy too drastically.

To us in the health professions, these facts mean new tasks, such as planning and organizing the medical and health aspects of civil defense and the extending of technical assistance to other less favored parts of the world. In addition to our continuing responsibilities for provision of health services these facts mean intensification of research, and expansion of training activities to increase our supply of health man power. They also mean greater emphasis on our disease control activities—the subject of this paper.

We all want answers—clear indications of exactly the ways in which we should proceed. The administrative answers are in process of being developed. I can assure you they are not ready-made, hidden away in the desk of a bureaucrat or the safe of a politician. You, in the professions and in state and local governments, are participants—you *must* participate—along with us in the federal government in developing these answers. In regard to civil defense planning, for example, the President included in his report to the Congress and the nation, *United States Civil Defense,* drafts of federal and state civil defense legislation. These drafts indicate the jobs to be done. No one, including the President, considers them as finished legislation. Both the tasks and the procedures will be studied by the Congress and reviewed with the executive departments, the state and local governments, the professions and the public, in order to arrive at satisfactory plans and programs.

From the technical standpoint, we must concede that wartime disease control differs little, qualitatively, from peacetime. The problems are divergent; quantitatively, some are increased and others minimized; and the resources to deal with them may be decreased or dispersed. But the problems are, by and large, the same ones with which we have dealt with increasing effectiveness over the past years, and their solution demands not a revolution but rather a strengthening and streamlining of our operations to make all our actions count.

One might say that the basic aim of disease control is to maintain the maximum effective man power, physically fit for work and production at home—on the farm as well as in the factory. Illness in the family keeps the worker off the job. As we learned in the past war, deficient community or personal health services drive workers with their families out of areas where they may be desperately needed. Nor dare we forget the paramount importance of health service to the morale of the country. We know full well the devastating effect of neglect of health services on a people, particularly if they feel that this neglect is due to indifference or inefficiency.

New cogent dramatization of this fact is wrapped up in the decisions made at the highest level of our government—that the technical assistance program to win the peoples of the world for democracy instead of communism must be spearheaded by health and agriculture. The fundamental objective is to reach the people with services which can benefit them as individuals. When we are putting our national effort into providing these services around the world, however, it would be folly to neglect our own.

This means, then, attention to such problems as adequate balanced nutrition to maintain health and prevent disease. It means availability of personal health services. It means control by minimizing the effects of disease and disability through rehabilitation, by bringing to bear medical skill and judgment on the placement of both the handicapped and the older population, to the end that their productivity may be increased.

both in amount and over a longer period of time. It means attention to hospitalization. Under the Hospital Survey and Construction Act most of our new hospitals, very appropriately, have been assigned to the smaller communities. Today, however, to meet the requirements of civil defense, we need to consider assigning new construction to the perimeter zones of large cities and target areas. To a considerable extent, this can be accomplished under the provisions of the existing statute through revision of the criteria used in the state plans of the present construction programs.

Let us turn now to the specific problem of communicable disease control as a subject about which there is great interest and some misunderstanding, even though quantitatively it may be a small part of the total problem of wartime disease control. We can consider the communicable disease problems under three categories: First, the "normal" situations which we always have with us; second, those situations which are created or intensified by population dislocations and from other stresses and strains; and third, situations which arise from the introduction of communicable diseases foreign to an area, by returning troops, by movement of an infected population from an endemic area, or by artificial means, that is, by biological sabotage or warfare.

We professional health workers know well the machinery for control of communicable disease, whatever the source. First, we have intelligence—information on where, when, what sort, and how much disease is occurring—all that is wrapped up in our term "reporting." Second, is identification by means of coordinated laboratory and epidemiological services. This is essential, whether it be an outbreak of food poisoning originating in a war plant cafeteria, or an unusual incidence of respiratory disease in a suburban community. Third is control, by means of surveillance through sampling, testing of water, milk, foods, air, etc., and by application of specific measures, such as sterilization of water, sanitation of food supply, isolation of cases, chemotherapy, immunological measures, or other means.

These are the tools—the familiar tools which are at hand to deal with all communicable disease. A period of mobilization or a war emergency simply requires that these tools be in good repair, that they be available, and that they be used effectively.

There has been much discussion, argument, and mystery, not to mention apprehension and even hysteria, about the possibilities of sabotage and attack with biological weapons. Recurring statements of the Sunday supplement type appear overdrawn to sober health workers. The senseless hypothetical debates about whether it is possible to start a self-perpetuating human epidemic by artificial means or whether it is possible to affect hundreds and thousands of people with a few drops of agent have obscured the problem and confused some of our thoughts. Every laboratory worker knows that things can come out of test tubes which make people sick. The Public Health Service four years ago dedicated its Memorial Laboratory to the 26 members of our staff who over the years had lost their lives as the result of accidental laboratory infection. A report on a study of laboratory infections which is being conducted under a Public Health Service grant is to be made before the Epidemiology and Laboratory Sections at this meeting.

Those responsible for planning and directing our defense mobilization are concerned that we maintain a realistic attitude. A little over a year ago the Department of Defense issued an official statement on potentialities of biological warfare in which it was stated: "Unfortunately, the public has been given an exaggerated impression as to the po-

tency and state of development of biological warfare. While it would be folly to underestimate the potentialities of biological warfare, there is no factual basis for extravagant claims of the existence of a biological super-weapon."

As we said before, our responsibility as health personnel is to develop the best possible defenses against disease of whatever nature and from whatever source. These defenses would automatically embrace the basic defense against biological attacks. The statement just cited, while discounting the more extreme claims made for biological agents, also points out: "An important defense against biological warfare lies in the early identification of diseases implanted and prompt institution of appropriate counter-measures to prevent further spread and restore the health of those affected." Fortunately, as we have noted, such defenses do not have to be started from scratch; they cover the gamut of our present disease control practices. To stress again—if our laboratories and reporting services and epidemiology are adequate—we are prepared to control infectious diseases, no matter what their source may be.

REPORTING

The Public Health Service has prepared a tentative plan for improving the present system of communicable disease reporting. This plan was drawn up by our National Office of Vital Statistics at the request of the State and Territorial Health Officers and was submitted this fall for consideration at their 49th Annual Conference.

The plan is to be given a preliminary trial installation beginning January 1, 1951. It provides for:

1. A new minimum list of diseases for reporting by local health officials to the state and, in turn, to the Public Health Service, some by telegram, the others by mail.
2. Periodic statistical reports which will furnish the base line of expected cases.
3. Minimum content of a general morbidity case report form.

In addition, the plan will foster the reporting by telephone, both of unusual diseases occurring in the community and of unusual outbreaks of usual diseases. This is in recognition of the fact that the requirements of a reporting system equal to wartime needs go beyond a weekly reporting schedule. There has to be an awareness on the part of practising physicians, hospitals, local health officials, and the general public of the importance of reporting unusual disease situations so that the state or federal health agencies have a more systematic source of up-to-the-minute information than newspaper reports.

As a part of epidemic intelligence, local health officials undoubtedly should consider, at least on a sampling basis, records of absenteeism in selected groups of people, such as in industrial or educational establishments. Significant illness would show up first in absenteeism from usual places of employment. Hospital reports on bed occupancy probably would also serve as a valuable index to any sudden increase of disease in a community. The Public Health Service is currently experimenting with daily absentee reports among its headquarters' employees.

IDENTIFICATION AND EPIDEMIOLOGY

While we must depend upon well organized, wide-awake reporting to direct us to the trouble spots, both as a defense measure and to safeguard the health of the nation against naturally occurring disease, this, of course, is only a first step.

What do we do with the information when we get it? Along with the declining incidence of many communicable diseases—a decline almost to the vanishing point in some instances—there has been a marked falling off in epidemiological services. Those services, in our

opinion, should be rebuilt both for defense purposes and to supplement essential research in disease problems, such as rheumatic fever, poliomyelitis, etc.

Also, as all of you know, our laboratory services, for the nation as a whole, are not uniformly high grade. While many local jurisdictions are served by first-class laboratories, competently staffed, well equipped, and capable of performing a wide variety of tests, the laboratories of many areas are deficient in all these respects.

If we are to make the best use of the information turned up by our systems of disease reporting, it seems imperative that epidemiological teams be set up and that they be backed up by competent laboratory services. To the extent that these services are not available locally, health departments may want to turn to universities, research centers, or other areas of special competence, such as the coöperative influenza listening posts of the National Institutes of Health. Our Communicable Disease Center in Atlanta is prepared to assist states in both reference laboratory service and in epidemiologic field investigation. It is through such investigative work that public health has traditionally dealt with normally occurring epidemics. The same methods still apply whether outbreaks are natural or induced.

There have been and no doubt there will continue to be allegations or rumors that particular outbreaks of disease are the result of sabotage or of biological warfare. In an age when acts of war are committed and repeated without formal declaration of war, people are naturally uneasy and inclined to act upon fears. Sustaining of morale will depend upon the extent to which they can be assured and given confidence that outbreaks of disease are being adequately investigated and appropriate measures instituted to safeguard the citizenry against acts of sabotage. Our state health departments and the health departments serving the larger metropolitan areas must be equipped to provide these assurances.

Our day-to-day sanitary practices will be our principal bulwark against induced disease. Normal controls for safeguarding public water supplies and for preventing the entry of unauthorized persons to treatment plant premises, the supervision of milk plants and dairy farms, the exercise of controls over food processing establishments, drugs and biologicals, these and many other forms of surveillance take on added significance in the present situation.

Fortunately, the development of simpler and more effective environmental safeguards has been going forward in recent years. This is illustrated by the great variety of insecticides, fungicides, and other economic poisons now on the market or under test, many of them developed originally under the impetus of war but adapted to peacetime uses. These developments provide us with additional defense weapons in the field of biological warfare. With the extra stimulus touched off by events in Korea, the Public Health Service is speeding up research of this kind. Efforts are being redoubled, for instance, to develop sanitizing agents and detecting devices that we already know about and to create new ones that can be generally applied with safety and effectiveness in water, food, or atmospheric bacteriology. One of these appears so powerful that it will sterilize water containing a wide range of organic and bacterial content, and because of its affinity for glass and other solids, shows promise of strong residual effect.

On the basis of advance results, a mono-molecular membrane for simplifying cultural methods in bacteriology and for screening particulate matter from air or water likewise shows great promise. The value of this device, if present indications are borne out, is that, like the compound just mentioned, it can be used

for eliminating a wide variety of contaminants from air or water and also for expediting their identification.

As information on these and other technical advances becomes available, the Public Health Service will see that it reaches state and local health departments with all possible speed. In our role as a clearing house for such information we naturally shall continue to look to the states and municipalities for information on developments occurring within their jurisdictions which will be of use to the nation. We will do everything within our power to supplement or streamline the normal means for communicating such information. We also look forward to organizing courses of instruction to assist schools of public health and health administrators to broaden existing competencies in epidemic detection and control.

Let me return for a moment, more or less by way of summary, to what, in our opinion, will become the overriding problem in the development of plans and programs for the control of disease in wartime—the problem of maintaining a state of readiness over a long period of time for an eventuality that may never occur. We must not only maintain public interest and support but we must keep our own people on the constant alert. There will be more jobs to do with fewer people, and most of the jobs will have, in and of themselves, little or no apparent urgency, little or no glamor. The direction of these jobs will change as time goes on. Emphasis will vary not only as the international scene shifts but also as technical developments occur and as our own organization and efficiency improve. Our plans and efforts must be flexible as new needs arise and new demands are placed upon us.

The question we ask some of our own staff when they become overwhelmed, and even a little resentful, about the uncertainties and delays in defining future programs is simply this: "What right has any individual or any profession or any department to expect to be a lone island of security and certainty in the present world of tensions and uncertainty?" We need rather to recognize the times in which we are living and working, and direct our energies toward achieving a sound balance of effort, always toward our fundamental goal of a world and a society truly at peace.

We will have to strike a pace of preparedness that will provide us with adequate safeguards and at the same time with safeguards we can sustain. Failure in attaining such balance is to court disaster, from without on the one hand, from within on the other. To attain this balance is the prime challenge of our times.

The Health Aspects of Civil Defense*

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DURING the past five years all of us have read countless articles and have listened to many speeches which describe the horrors of the atomic bomb. It will not be my purpose today to repeat these facts, but to proceed at once to talk about civil defense and to outline for you what our thinking and planning have been in New York State.

First, we need to examine the total structure of our health services for defense. In the United States there is an urgent need for a federal plan for the use of health resources in civil defense. We need a uniform terminology for the various segments of the emergency medical services. We need patterns for agreements on interstate coöperation because emergency services will not be limited to one state. We need knowledge of the amount and type of supplies and equipment that would be provided by the federal government and stockpiled in regions throughout the country. We need a national system of identification. We need detection devices that will be inexpensive and effective. We need uniformity in our training courses and training manuals. Much of our state and local work will be impeded until national uniformity is arrived at and put into effect.

The atom bomb is a realistic fact, and long-range planning must be included in our thinking. In New York State, the Health Department has the responsibility of state-wide planning for the medical and public health activities of the civil defense program. We have the additional duties of coördinating local resources, of training teachers and key personnel, of stockpiling state supplies and handling federal supplies allocated to us, and of making special studies to improve medical procedures used in civil defense. The state's coördinating activities are complex. These include federal-state, interstate, and interdepartmental relations, and proper liaison between the Department of Health and the Civil Defense Commission. In addition, there is the important two-way channel between the State Health Department and the county and city health departments. This last is made easy because of the joint public health programs already under way.

Advisory committees must be kept few in number, and as small as possible, otherwise too much time of operating personnel will be taken up, going to meetings, making and listening to speeches, with the result that important work will be delayed. The pattern used in New York State is a simple one. There are two principal committees. First, there is a Health Resources Committee, which includes representatives from the major health groups in the state, both official and voluntary. Second, there is the Medical Advisory Committee of the Medical Society of the State of New York. This includes the President of the Society, and the chairmen of the various special committees involved in civil defense. Specifically, these are the Committees on Health Preparedness, Public Health and Education, and Blood Banks. When special problems are met, one of the members of this Medical Advisory Committee, is appointed chairman of a small

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subcommittee. This group in turn reports back to the Medical Advisory Committee. In this way, one main committee, keeps all advisory activities under control.

For example, the Chairman of the Health Preparedness Committee called a meeting of the clinical specialists from the nine medical schools in New York State and presented the problem of emergency treatment of burns, shock, wounds, and fractures, so that uniform procedures could be established. Such procedures are extremely important, in the interchange of personnel, and in determining what supplies must be stockpiled. In addition, the accumulated knowledge will be used for teaching purposes. This chairman reports the findings of his subcommittee to the Medical Advisory Committee which includes the State Commissioner of Health, who is designated by law as the medical member of the State Civil Defense Commission.

In the Health Department itself, we have developed a departmental plan which places the Office of Medical Defense in the Executive Division of the Commissioner until the permanent status and function of this office are determined. Key personnel throughout the department have been assigned special tasks on a part-time basis. Their activities in civil defense are coördinated by the department's Office of Medical Defense, with major policy decisions cleared through the Commissioner of Health. The public health personnel call upon department advisers and consultants for advice. Psychiatric and hospital consultants are called in for consultation when they are not available in the Health Department.

At the request of the Civil Defense Commission, the department has prepared a basic guide for emergency medical and public health services for cities and local communities; it reviews local plans to determine the best use of doctors and other professional personnel, and has established regional defense units which can be strategically utilized, singly or in multiples, in the event of attack. A public health physician is assigned full time to the Civil Defense Commission, to act as an alternate member of its central headquarters control staff. He is available to determine what resources and personnel will compose reserve units that can be sent to areas of devastation.

Early in 1949, the New York State Department of Health took advantage of civil defense training courses which were offered by the Public Health Service and sent a number of its physicians and engineers to Washington for training. These men on their return served as instructors for other members of the State Health Department. In June, 1950, there was another significant development in training: The Department of Health, the Medical Society, and the nine medical schools in the state arranged for a joint training program for all practising physicians. A curriculum committee was appointed, and a list of subjects to be taught was agreed upon. These subjects have been presented in all subsequent courses. They include the role of the health officer in medical preparedness against atomic disaster, a discussion of the problems encountered at the time of explosion, a discussion of radiation syndrome in man, a presentation of elementary nuclear and radiation physics, the biologic and genetic effects of radiation, the care and treatment of victims of an atomic explosion, and a discussion of radiation detection instruments.

It was found, early in the program, that a one day teaching course in each area of the state was sufficient for orientation of general practitioners. Ninety-six teaching courses of one day each have been arranged for nearly 10,000 physicians in upstate New York. Of the meetings reported so far, attendance has

been well over 80 per cent of the registered physicians in the area. In addition to these courses, sixty sessions have been planned for 14,000 physicians in New York City. In addition to physicians in training, there are dentists, osteopaths, and approximately 50,000 registered professional nurses and licensed practical nurses who will be trained. Similar training courses are going forward for sanitary engineers. The training of lecturers and the preparation of detailed curricula require the highest degree of competence from the health department and the professional schools. We have learned from the English that training, poorly done, is worse than none at all.

Principal target areas in the state have been indicated, and special attention has been given to the resources in the vicinity of these areas. One must not overlook the importance of mutual aid around these target areas. For example, plans in Suffolk, Nassau, and Westchester Counties that adjoin the metropolitan area, are extremely important in the event that New York City is hit. Target areas must be concerned primarily with self-help, and secondarily, as sources of help to other areas.

In places not designated as target areas the major emphasis of defense activities must be on mutual assistance. The target areas would be helpless to take care of their injured without the aid from supporting areas. Furthermore, emergency hospitals, supply depots, and evacuation centers will be located in these non-target areas. Mobile primary aid post teams will be mobilized from these areas. In the more distant areas from the targets, permanent hospitals will provide the kind of treatment that will avoid unnecessary disability and will put people back to work and normal activity as quickly as possible. Accordingly, the civil defense activities of the non-target areas are inseparable from those of the target areas. Predetermined mutual aid and flexible supporting services comprise the two facilities that can be brought to bear on an overwhelming attack on a concentrated population. These supporting services are indispensable in the master plan for medical defense, especially if more than one target is hit at one time, and if multiple bombing is involved.

When we consider the local area where civil defense is finally carried out, we must recognize that plans will vary with populations, location, and resources, in personnel and facilities. Local plans are being developed, on the pattern of the state's basic guide for medical services in civil defense. Each local plan should contain a clear statement of needs, both immediate and long-range. Objectives of the local plan must be clearly defined. Finally, the special activities of different types of medical personnel should be foreseen as realistically as possible and described in detail. The medical plan for civil defense should follow the same principles of program planning that we use in any new public health activity. Epidemiological principles apply in disaster control as well as in disease control. The following is an outline of our plan in New York State:

I. STATEMENT OF THE PROBLEM
II. OBJECTIVES
III. BASIC PRINCIPLES
IV. PREPARATIONS FOR ATTACK
  A. Organization
  B. Duties of Staff
  C. Selection of Medical Facilities
  D. Functions of Medical Facilities
  E. Staffing of Medical Facilities
  F. Qualifications of Personnel
  G. Recruitment and Training
  H. Blood Services
  I. Medical Supplies and Equipment
  J. Food Supply for the Injured
  K. Mortuary Services
  L. Biological and Chemical Weapons Control
  M. Transport and Communications
  N. Communicable Disease Control
  O. Water, Milk, Food, and General Sanitation
  P. Health Information
  Q. Coöperation with other Civil Defense Groups

(Radiation Monitoring Services have not yet been assigned to any one department.)

V. OPERATIONS UPON ATTACK
- A. Flow of Personnel
- B. Flow of Patients
- C. Interplay of Emergency Medical and Public Health Services

Of course, each of these major headings requires numerous subheadings. Interested persons may secure detailed information on these plans from the New York State Health Department.

From such a plan, thoughtfully evolved, comes strength of service and certainty of direction. These make for high morale and effective action, and they reassure a public that depends on us for protection.

In the local area it is necessary to prepare the public to accept the risk of possible attack by atomic bombs and also to accept the responsibility of giving mutual aid to other parts of the state. The latter is the more difficult of the two. If people understand the purpose of civil defense and participate in it, they will be better able to meet their individual emotional crises. A sound plan helps to avoid group panic and fear, and can reduce the damage that might be done to those who make a frenzied attempt to escape when the area is hit.

We must carefully plan to prevent panic at the time of attack. We must provide direction for the lost and the fearful, so that they will not wander into hazardous areas. Casualty data must be collected centrally so that correct information may be promptly given to relieve the anxiety of relatives and friends. It might be effective to make use of boys between the ages of 12 and 15 as messengers and, incidentally, to demonstrate calmness to the hysterical. Terrified people cannot be forced to do things by policemen. To try to do so would be to increase panic.

One of the grave tasks of the local community is to train and retain the thousands of volunteer workers of all types who will need to participate in the local medical defense program. The maintenance of their morale and interest is a hard job. This volunteer work will take evenings, holidays, and weekends. Certainly the most skillful public relations are necessary to secure and retain recruits. If attack does come, most likely without warning, local groups should know that the state is prepared to extend the services of mobile reserves to any part of the state. These, however, cannot be moved unless they have been properly trained and organized upon the same basic plan that is used in the area of attack.

The magnitude of civil defense against atomic attack, truly baffles the imagination. The impact of such devastation upon our people can only faintly be forecast. Our knowledge of the destructive power of the atomic bomb, and our awareness of the inadequacy of any military defense against it requires us at the outset to be aware that no complete security is possible. We are amateurs in chaos. Under the burden of known destruction that even one atomic bomb can cause, we must admit that we shall succeed in our humane intentions only if we can mobilize our resources quickly to reduce the probable number of the dead, minister to the injured, and ease the anguish and suffering of the stricken.

The atomic bomb produces no new or mysterious illness. The medical profession has been familiar for many years with the effects of ionizing radiation on the body. The problem posed by such an attack is one of medical logistics—a race against time to get sufficient personnel and supplies to one or more cities in the state within a matter of hours.

The experience of Hiroshima was that of a city unwarned and unprepared for an attack by a bomb equivalent to 20,000 tons of TNT. The following figures are estimates of deaths and in-

juries made on the basis of incomplete data.

Hiroshima Estimated Figures

			Number of Persons
Total casualties			160,000
Dead		80,000	
Injured		80,000	
Walking injured	40,000		
Stretcher cases	40,000		
Severely burned cases			27,000
Fractures, open wounds, and crushing injuries			13,000
Severe shock			12,000
Radiation illness			12,000

You are cautioned not to apply these figures to every community having the same population as Hiroshima. These figures are not reliable enough for prediction purposes. There are many factors which may influence the number of casualties after atomic explosion. We cannot give you a magic formula to enable you to estimate accurately the number and type of casualties to expect in any specified city. We can only give you some leads, and ask you to use common sense in your computations.

The number of casualties will be raised if the size of the bomb or the population density is increased. A reduction in dead and injured will result if the bomb is exploded on the ground, if warning is given before the burst, if an appreciable evacuation of the population is carried out before the attack, or if the explosion takes place over less populated areas.

We must also remember that this whole problem is complicated by multiple injuries and varying degrees of atomic radiation. Although radiation can interfere under certain conditions, with emergency medical care the danger areas can fairly quickly be identified, and physicians and their aides will be enabled to concentrate on the non-radiated injured outside the area. It is assumed that 10 to 15 per cent of those injured by blast and heat will be suffering also from the effects of radiation, if the burst occurs in the air.

In New York State we have gone beyond the stage of initial planning. Under the vigorous leadership of General Lucius D. Clay, our state is producing a sound civil defense program. Now we believe it is time for medical personnel to work toward other objectives which will make national and state defensive effort a strong offensive weapon as well. At the outset of our planning it was necessary to place total departmental emphasis on planning for emergency medical services. In consequence, key personnel in the department have been burdened with double duty. Since defense planning had first priority, other health activities were placed in a position of diminished importance. There is danger in such diminution of activity, because experience has repeatedly taught us that any lessening of health activity during periods of continued emergency results in health losses, which soon become apparent in morbidity and mortality records. If this is true in normal times, then such a probability is even greater in days of anticipated disaster. Physicians throughout the state must increase their efforts to protect the people against epidemics and the flourishing of diseases such as pneumonia, influenza, and tuberculosis, which can devastate a population during and after warfare. Therefore, attention given exclusively to problems of emergency action would, in the long run, be self defeating.

Courage, confidence, and determination make for sound morale in time of danger. Health is the soil that nurtures these strengths, and enhances our certainty of victorious defense against attack. In the days to come the workers in departments of health will continue to do double duty; their career people are ready and willing to perform their tasks, no matter how great the personal sacrifice; by so doing, they shall continue their basic activities of protecting and improving the health of the people.

Public Health Aspects of Atomic Energy*

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WHEN the Atomic Energy Act was passed by the Congress in 1946 it initiated a peacetime, continuing program of research, production, and weapons testing, which placed the use of nuclear fission and radiation on a level of world-wide significance. It introduced into the economic life of the country an atomic energy program described by the administrator of wartime science as "By long odds the most dangerous manufacturing process in which men have ever engaged." The nature of the manufacturing process was recognized by the Congress, which provided in the law for the maximum protection of A.E.C. employees, the general public, and other workers who might be exposed in any way to the potential hazards of radiation.

Prior to 1946, the Manhattan Engineering District, wartime operators of the atomic energy program, had already developed relatively successful techniques for the protection of workers engaged in these operations from 1942 to 1946. Coupled with the special features of this industry that it has exclusive control of materials, equipment, and processes, is the fact that it is unique, constantly dangerous, shrouded in secrecy, and not yet sufficiently understood.

Without reviewing technological details it is helpful to recall that the industry was concerned with high energy radiation, having its origin in the core of the nucleus of the atom. Its raw material, by and large, is the Uranium ore. After the refinement of this ore to produce the metallic form desired, energy is released by splitting the atom, which results in the production of enormous quantities of heat and of high energy radiation. The consequences of this process, relatively unknown on a large industrial scale prior to 1942, warrant brief recording. In place of a few radium dial painters doing standardized work and an occasional operator of a testing machine, thousands of workers now perform hundreds of tasks in the vicinity of materials releasing much more radiation than man had ever known before. In place of a few doctors and hospital and laboratory technicians handling minute quantities of radium and x-ray machines, hundreds of scientists and technicians are performing laboratory operations with materials thousands of times more radioactive than radium and with particle accelerators with voltages running to tens of millions, instead of tens of thousands. Some idea of this total rapid advance may be obtained from the fact that less than 10 years ago approximately three pounds of radium were under human control. Today radioactive materials are being produced and in many instances are being used to the equivalent of millions of pounds of radium.

The U. S. Atomic Energy Commission points out in its report for the first 6

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months of 1950 that "in such large concentrations of material, either naturally radioactive or made so in various operations of the program, these same types of radiation create potential hazards. Workers must be protected against them when they are generated in manufacturing processes. The public must be protected by safe handling of the unique industrial wastes. Special safeguards must be set up and maintained in research that involves radioactive material or release of radiation."

In these few words the Atomic Energy Commission has clearly stated the problems now confronting this or any other country in which nuclear fission operations are proceeding on a large scale.

As the activities of the Commission have grown and as the uses of its products have expanded, one would suppose, at least in theory, that the area of public health agency interest and responsibility would have been correspondingly extended. It has been accepted as axiomatic in public health practice that official public health agencies generally should assume responsibility for control of those activities which have more than a single individual impact or significance. When actual or potential hazards assume sufficiently wide proportions in any field, at that stage federal, state, and local health agencies ordinarily take official cognizance of the problems of control. The review of nuclear fission operations herein presented indicates the areas in which, potentially at least, the public health may be affected.

THE EFFECTS OF NUCLEAR FISSION OPERATION

A. Peace-time Effects—

Workers within the nuclear fission industry, workers in research with the products of that industry, and the general public all have a major though variable stake in this new industry. Potential hazards arise in the development of raw materials and in subsequent refining processes, in the nuclear changes in fuel taking place within the reactor itself or in the chemical processes following it, in the transport and distribution of the products and in the general use of radio-isotopes. In addition, virtually all of these undertakings result in radioactive and chemically toxic wastes of either gaseous, solid, or liquid character, affecting the soil, the air, and the water.

A special difficulty arises in evaluating the results of each of these steps in the unfortunate fact that nuclear radiations are invisible and undetectable by the unaided senses; they cannot be seen or felt. Their detection, therefore, requires much new instrumentation, which is being rapidly developed and increasingly perfected. Where the radiations cause damage, they do so because the particles or rays disrupt the atoms and molecules of any substance they strike, whether air, concrete, steel, or human bodies.

In normal operations in peacetime the potential hazards within and around atomic energy installations vary with the work being done in each place. The nature and the amount of radiations are being continuously monitored. Their significant effects upon the people and upon the materials are being studied extensively.

It is unfortunately true, but unavoidable, that contradictory facts as to radiation effects have been placed before the public. Some reports have been overlurid, while others have deliberately played down certain effects, particularly where bombing has been under consideration. It is not surprising, therefore, that many interested health authorities have found themselves in a confused state regarding even peacetime or normal operations in this industry.

This much, however, may be said. Enough is known about these processes to permit any public official, who has sufficient interest and energy to inquire into the available data, to use them intelligently. An example of such normal

peacetime controls resulting from the use of such data is described[1] by John E. Silson of the New York State Department of Labor. He discusses the use of radioactive static eliminators in industrial operations, where paper, plastic, rubber or some other dielectric is passed at high speed through rollers or other friction-creating surfaces. The development of static electricity in such operations has resulted in the use of radioactive alpha-emitting bars to ionize the air. Usually these materials have contained either polonium or radium, and were hazardous to workers. Aside from the fact that these uses created radiation problems, their study and their control fell into the category of functions which an industrial hygienist would ordinarily be expected to cover.

Uses of radioactivity are known to be expanding in industry, in hospitals, in research laboratories of non-medical character and in hundreds of other categories hitherto unforeseen.

B. Peacetime Catastrophe—

As in all other industry, where processes are complex and potentially dangerous, the nuclear fission industry likewise presents situations in which a catastrophic event might occur. The record of the Atomic Energy Commission contractors has been excellent in this respect. Everyone hopes, and might even expect, that the absence of catastrophe may be permanent. The unexpected, however, has not been rare in industry, and the implications of such catastrophes for official health agencies are clear. The great loss of life and of property in the explosions of Texas City, and South Amboy, N. J.; in the fires of Reno, Nev., and Boston, Mass.; and the atmospheric pollution at Donora, Pa., are still too recent to make it possible to ignore such peacetime possibilities. All of them were due to the unexpected, and in many instances to the unsuspected, contingencies for which man-made rules were found to be faulty. It is almost too much to hope that such situations may be entirely avoided in the nuclear fission industry. It is more intelligent to be prepared for such an emergency, particularly in view of the fact that control procedures would require material modification over those familiar in a normal fire, flood, or industrial process catastrophe.

In addition to the distinctions which must be borne in mind with respect to the release of radioactive materials, familiarity with the problems to be encountered would be even less complete than in a normal catastrophe. The rules of control during and after an emergency have been primarily formulated by and are known only to the Atomic Energy Commission or its contractors. It is doubtful whether public health agencies are aware of any of the attributes of such guiding rules.

The experience with the South Amboy Port Explosion on May 19, 1950, has special pertinence to the subject matter discussed today. It pointed up the necessity of giving special and immediate attention on the part of health departments and of planning commissions to the problem of unsuspected two-way encroachment of our growing communities and expanding hazardous enterprises on each other. The students of the South Amboy experience emphasize the necessity for more frequent industrial surveys and periodical reviews of municipal and state planning.

A second lesson of even greater significance was that a long overdue restricting order was temporarily relaxed only a few days before the blast. Perhaps the most important of all the lessons was that too much reliance could not be placed on the ordinary, routine "self-policing" practice sanctioned under the current regulations. This last factor should give pause to every health department, where the peacetime catastrophic aspects of any installation should

be assessed, duly respected, and provided for. It is not only in war that preparedness for the consequences of catastrophe should be a prime function of any local health department. This responsibility is tacitly accepted by many health departments, but for the most part in the functions with which we are now dealing, it is more generally avoided in reality than exercised.

C. Wartime Problems—

If the United States is ever attacked with atomic bombs, a new weapon of great destructive power comes into use. Wholly aside from radiation aspects, the "nominal bomb" is reported to be equivalent to that of 20,000 tons of TNT. That present available bombs have greater capacities than the "nominal bomb" is a matter of public knowledge. Without indulging in any elaborate analysis of the relative significance of such bombs with respect to blast versus nuclear radiation effects, it is sufficient to say that either or both would result in consequences which no responsible federal, state, or local health agency could afford to ignore. The new aspects of catastrophe which would follow in the wake of such a difficulty are wider in geographical extent, more deadly in total persons affected, and more critical in salvage operations than any which have hitherto confronted official agencies.

Reiteration of all of the potentialities of such a wartime risk could give no greater emphasis to the importance of disaster preparation than would be obvious to any official who would review the Hiroshima and Nagasaki experiences.

Fortunately the release by the Department of Defense and the Atomic Energy Commission of the volume on *The Effects of Atomic Weapons* provides the investigator and the administrative departments with information on the nature and the consequences of the use of such weapons. The volume should be required reading for at least a selected few in every department of health in the country.

D. Radiation Genetics—

A word should be said with respect to population genetics and radiation, even though anyone who is interested is soon aware of the highly controversial nature of the debate in this field. Sewall Wright, perhaps more than anyone else, has cogently summarized the present situation in the following comments "there are such enormous gaps in our knowledge that no judgments of the genetic consequences in man can be taken seriously. There is, however, a strong possibility that cumulative doses of the order of 300 roentgens may have important effects on the offspring and descendants of those affected and doses as small as 30 roentgens may not be negligible. On the other hand, there is little or no threat to the persistence of a population as a whole from this cause."[2]

With the tolerance now in use, Evans would consider that the risks are minimal.[3] Muller, on the other hand, feels that risks are significant, even though the results may be in some distant future. He dramatically points out that "persons who subject themselves or others to ionizing radiation should bear in mind that they have to weigh the benefit conferred today against any detriment which may be accrued, at no matter how distant a future time."[4]

In so far as radiation genetics is concerned, far more research is required, particularly with respect to man, than is now at hand.

In the interval, until the results of such research are available, the health official may properly view the situation with due respect. It has been aptly stated in this connection that, although one need not stress an attitude of alarm, one should acquire a healthy respect for protective rules in general radiation practice.

E. Radiation in Medical and other Specialties—

Few health departments in the country at the moment exercise any general control over the use of radiation equipment in the medical or industrial fields. One may properly raise the question as to whether medical specialists keep full account of the estimated amounts of radiation received by the reproductive organs or by other parts of the body of each exposed individual. Muller has suggested likewise that patients exposed by one physician after another to radiation should keep cumulative records of these additive amounts. Proposals for providing more protection to technicians, to bystanders, and to individuals in neighboring rooms offer opportunities for regulatory measures and inspectional services which are not always pursued. The review of such practices, in medicine, in industry, in commerce, and in the research centers of universities would produce fruitful results, where the effort would be to bring such installations up to the high standards maintained in governmental atomic energy installations.[5] One of the blocks to the development of such controls, as simple and as straightforward as these controls might appear to be, lies in the lay, the medical, and the public health attitude toward the whole problem.

Dublin and Spiegelman [5] have recently called attention to this situation in their studies of the mortality statistics of physicians classified according to their types of work. They comment on the markedly higher incidence of deaths from leukemia and, to a lesser degree, from cancer in the case of radiologists and dermatologists. They attribute this situation among these specialties possibly to the effect of their exposure to dangerous radiations.

ATTITUDE OF OFFICIAL HEALTH DEPARTMENTS

The atomic energy program is now sufficiently widespread to result in exposing large numbers of individuals to beneficent as well as to malign potential effects of radiation. Since the numbers so exposed are likely to increase rather than to decrease, the areas of operations have assumed a public health significance. It is interesting to explore, therefore, the attitudes of health departments in general toward this dynamic field. The reactions appear to fall into three major categories.

Whether for reasons of the mystery of the industry and its products, or of the secrecy which has hitherto surrounded many of its operations, or whether because the measurement of effects is still complex, it is difficult to say; but most of the official agencies have decided consciously or subconsciously to ignore the existence of the trade, its products, and its wastes. It may be predicted that this ostrich-like attitude toward atomic energy will result either in the substitution of another official agency for the health departments in the regulatory features of this industry or in increasing difficulties to the public because of the failure to exercise any control.

Some have said that the problems are so complex that a federal health agency should look after it and let both information and control filter downward to, rather than upward from, the local areas, a departure from principles hitherto controlling in this country.

Without attempting to diagnose the basis for this position, it may be predicted that it too will prove to be untenable, for, as the uses expand and the difficulties increase, the public will require more rather than less local supervision and control.

The third attitude, and the one which relatively few health agencies have exemplified, is to learn to live with radiation administratively. It is surprising that this approach has been so rarely adopted, since it has had ample precedent in the history of public health

administration in this and in other countries. Certainly during the last half century no health department has decided to ignore the hazardous trades either because of their mystery or because of their complexity. It has met such challenges in the normal strides of administrative practice.

In the case of England, the contrary situation prevailed, almost from the beginning of nuclear fission operations. In that country, as in the United States, sole responsibility for all atomic energy operations rests with a single agency, the Ministry of Supply. From the beginning of its operations, however, consultation with the Ministry of Health and other official agencies responsible for all of the amenities affecting the public, have been legally required, continuous and thorough. Such joint responsibilities have not yet been fully developed in the United States, even though the Atomic Energy Commission has persistently advocated the early and more general participation in such controls by official health departments.

The experience of the last 8 to 10 years, therefore, makes quite clear that a new industry has been developed in this country which, in its implications and in its expenditures, is already larger perhaps than those of any other industry in the United States. Its operations and its products have many significant effects upon workers and the general public. By most criteria hitherto used in the public health field, atomic energy would appear to be a matter of great import to public health practitioners. Few if any of the official agencies have developed staff or administrative procedures in relation to the ever-expanding nuclear fission industry. That such a major gap in health department responsibility should be permitted to continue is one of the mysteries of the last decade. For the welfare and health of the nation the gap should be closed.

A minimum requirement for state and local activity in this field would appear to be the development of at least a few key professionals in each department, familiar with and skilled in the atomic energy field. These individuals should gradually evolve both peacetime and wartime rules of action which would gradually encompass responsibility for the control of the hazards, potentially inherent in nuclear fission operations and in the use of their products. Even with such a modest beginning, official health agencies would recapture a responsibility which historically has always been theirs. The public health profession of this country and the atomic energy industry jointly have a grave responsibility as well as a great opportunity to serve the public. A temporary default should not become a permanent omission.

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The Coxsackie Viruses*

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SINCE the Coxsackie viruses were discovered three years ago[1-3] they have been shown to be common human infections, but their importance as a cause of disease and disability is still uncertain. We cannot hope to measure their importance until additional cases and outbreaks have been carefully studied, and this requires the coöperation of competent virologists for at the moment a certain diagnosis can only be made in the laboratory. Pathognomonic clinical signs and lesions have not yet been discovered.

The Coxsackie viruses have usually been found in the feces or throat washings of patients or individuals recently ill or in close contact with a sick person. There are reports of an occasional isolation from the blood stream or cerebrospinal fluid but I doubt that either kind of specimen is a promising place to look for virus. In our own experience, we have never recovered virus from specimens of cerebrospinal fluid and the only time virus was recovered from blood is open to suspicion since the tube was cracked when received and the specimen could have been contaminated.

The choice between throat washings and feces may not be important. It has been our practice to examine feces, but this summer throat washings are also being tested and it may eventually be possible to determine which specimen is preferable. You will recall that, in the case of poliomyelitis, the throat washings are less suitable after the first days of illness than the feces—that the virus persists in the patient's stools for a longer period of time. I suspect that the same may be true of the Coxsackie viruses. It is interesting in this regard to note that, of the hundreds of fecal specimens we have tested in *mice*, we have found no other viruses than members of the Coxsackie group. Throat washings will now and then yield another agent. Recently, for example, a litter of suckling mice injected with a suspension of throat washings came down with herpes simplex infection. Feces from the same patient yielded neither virus.

The type of illness associated with Coxsackie virus infection is quite varied. Our own experience has been largely based on a search for Coxsackie viruses in the feces of patients with poliomyelitis or with symptoms similar to those of poliomyelitis. Coxsackie virus may frequently be found in such cases. Sometimes both agents, poliomyelitis and Coxsackie viruses, are simultaneously present. When we recently reviewed the work of the past three years,[4] we found that we had isolated Coxsackie viruses as frequently from paralyzed as from non-paralyzed patients. On the other hand, an outbreak in Connecticut in 1948 seems to have been exclusively non-paralytic.[5] Others[6,7] have isolated Coxsackie virus from patients with a variety of symptoms. A recent British report[8] suggests that the Coxsackie viruses have something to do with epidemic pleuro-

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dynia or Bornholm disease, and I understand more definite evidence is soon to be reported from Boston.[9] It would be unwise at this time to restrict one's search for Coxsackie viruses to a particular illness and indeed there is ample justification for looking far afield.

The identification of Coxsackie viruses is based on two of their characteristics. The first of these is that they are pathogenic only for suckling mice and hamsters—not for weaned ones. Some of the strains of Coxsackie virus are at least infective for monkeys and chimpanzees and all are presumably pathogenic for man but, of the small laboratory animals, only the new-born and immature ones are susceptible. The second characteristic is the experimental disease. An agent that causes illness and death only in immature mice and that induces certain lesions may be tentatively identified as a member of the Coxsackie group. The lesions are essential in identifying the virus and in classifying the various strains. It is usually simple by histologic examination to determine whether a particular strain belongs in Group A or Group B. The Group A viruses cause widespread degeneration of the striated muscles. Few muscle bundles are spared. The mice die promptly, following paralysis and weakness. Lesions are not found elsewhere. The Group B mice have focal muscle lesions, sometimes found only after rather thorough search. In addition, mice infected with Group B strains will be found to have characteristic and severe lesions of the brain, the fat pads, or both. The mice may show spasms or paralysis or both for a number of days. All of the strains that have been isolated in our laboratories may be classified by these means. As is evident, such a classification simplifies the final serologic identification of a new strain by restricting comparison to members of one of the groups.

The Coxsackie viruses are rather numerous. Within our own experience, nine serologic types have been tentatively identified. Other workers have reported strains that may represent additional types. The multiplicity of types is, of course, a severe handicap to the use of serologic tests for clinical diagnosis. To us, it seems more practical to identify cases by isolating virus rather than by serologic means. Once a virus has been isolated, it is, of course, important that the acute and convalescent sera of the patient from whom it was obtained be tested against it to demonstrate a rise in antibodies. This may be done by means of neutralization or complement-fixation tests. Both methods may also be used in comparing strains of virus,[10, 11] and Melnick has cleverly adapted the cross-protection test to the same purpose, using infant mice born of vaccinated mothers.[12] This is necessary, of course, because by the time new-born mice can be immunized they have become spontaneously immune to infection. All three methods usually give clear-cut results although we have some evidence that cross-relationships may exist between certain types at present under investigation. By and large, the serologic comparison of strains is straightforward and satisfactory but the study of human sera is often less clear-cut.

Recognizing the multiplicity of strains and the value of histologic classification, we have used a scheme of identification by which the various types are numbered. Miss Sickles and I [11] originally reported Types 1, 2, and 3 of Group A and some time later described the criteria by which Group B may be recognized.[8] Miss Howitt [13] has added Types 4 and 5 to Group A and three additional Group A types have since been assigned numbers in Albany. Moreover, a second serologic type of Group B virus is now available. This method of identification has much to recommend it. Geographic names are of little significance. The same type of virus has been found in various parts of this country and in other

countries. A uniform terminology is badly needed, since the use of various geographic names or patients' initials for the same type of virus is bound to be confusing. It would seem to be the responsibility of all investigators to compare their own strains with the established ones and to follow a consistent system of classification. This may be of considerable importance in evaluating the clinical significance of the various members of the Coxsackie groups.

It is evident from published reports that a surprisingly large number of laboratory infections have already occurred.[8, 14] This should caution us to exercise the greatest possible care in protecting laboratory personnel and also in avoiding cross-infection among suckling mice. The routine we are using is as exacting as circumstances permit. Newly isolated strains are maintained in separate rooms until ample specimens have been accumulated. Frequently strains are retested with known sera. Individual pans for examining mice, individual forceps for handling them, and similar precautions are carefully followed. Being conscious of the dangers of cross-infection, it has been our practice to use infected mouse brain, rather than the carcasses of mice, as sources of virus. We have done this chiefly because the brain can be harvested with less risk of contamination than the carcass.

Coxsackie viruses are stable, resembling poliomyelitis virus rather closely in this respect. Infected mouse brains may be preserved for years in 50 per cent glycerol or at −70°C. and suspensions are quite stable even at room temperature. The virus is not readily inactivated by heat, and is little affected by a rather wide pH range. These viruses are excellent antigens and specific sera of high titer may be readily produced in experimental animals.

In all these respects, the Coxsackie viruses are very satisfactory laboratory tools. Indeed the greatest practical difficulty they present is the necessity for an ample supply of immature mice. Since the mother must also be sacrificed, the inroads into the breeding colony are serious. We have learned several little tricks that are helpful when using suckling mice. The mothers must be watched to make sure they are interested in the young. If they are not, a new mother may be supplied and sometimes the litter saved. It is not difficult to see when the young are being well fed. We have made a practice of handling the test animals randomly. All the young to be used on a particular day are pooled and distributed to individual cages and mothers by random sampling.[15] This sometimes saves an experiment, for litters vary considerably. We prefer to use mice not less than 2 days or more than 4 days of age. Younger animals are more delicate and it is more difficult to interpret their clinical behavior.

There are indeed no special or very serious obstacles to the study of the Coxsackie viruses and much remains to be learned about them. They seem to be especially intriguing because they resemble in many respects poliomyelitis. Possibly, Coxsackie virus infection will prove to be an ecologic model of poliomyelitis and so open to many workers the opportunity of studying that serious disease.

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Kellogg Foundation Grants

An important new project has been undertaken by the W. K. Kellogg Foundation, Battle Creek, Mich., which "aims to improve the quality of administration in public school systems." Funds will go to certain universities to enable their schools of education to develop programs of on-the-job education for local community and state school administrators. The University of Chicago, Harvard University, and Teachers College, Columbia University have received grants in excess of $200,000 each and the Foundation estimates that the grants for this project over a 5 year period may reach $3,000,000.

Three new projects in the field of dental education were also announced, two of them 3 year grants. These went to the University of Detroit in the amount of $66,500 for the training of dental hygienists in a 2 year course and a smaller grant went to the Canadian Dental Association for a survey of Canadian dental schools. Three visiting professorships in Latin American universities to be filled by faculty members from dental schools in the United States were approved.

The Massachusetts Department of Public Health received a grant in excess of $140,000 over a 5 year period for field training of public health personnel. The Oregon State Health Department received more than $82,000 for the development of a program of sight conservation. Other smaller grants went to community health projects in Michigan.

Control of Acute Respiratory Illness by Ultra-Violet Lights*

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THE study of acute respiratory illness was conducted in two communities, Pleasantville and Mt. Kisco, in Westchester County, New York. Pleasantville is 31 miles (one hour by train) from the central part of New York City, and Mt. Kisco is 6 miles north of Pleasantville. This investigation was carried on in coöperation with Dr. Mildred W. Wells, of the Westchester County Department of Health, who initiated a study of measles and chickenpox in the two communities.

The objective of the investigation conducted by the Westchester County Department of Health was a study of the channels of flow of measles and chickenpox through a suburban community, and investigation of the possibilities of interrupting these channels by increasing ventilation by means of ultraviolet light of the atmospheres shared by the children of one community, Pleasantville. The other community, Mt. Kisco, was to serve as a control for comparison with the experimental community.

According to Dr. Wells, the original plan of her study did not include observation of the occurrence of acute respiratory illness such as colds "because of the short incubation period believed to be characteristic of such illnesses, the multiplicity of exposure in and out of the school, and the confusion of the patterns of spread by the inclusion of adults in the population at risk." However, the Milbank Memorial Fund, recognizing the complexity of the problem, felt it was worth while to study the morbidity from colds and other acute respiratory illnesses in the two communities. The Fund is greatly indebted to Dr. Wells for her ready and continued coöperation in this endeavor.

A description of the type of ultraviolet lights and their installation in Pleasantville, the experimental community, is quoted from a paper published by Wells and Holla[1]:

> During the first three months of 1946, ultraviolet lights were placed in all the schools of Pleasantville, in three of the Sunday schools, in the Children's Room of the Library, in the village movie, and in the Department of Health Clinic rooms. During the autumn of 1946, three churches were equipped, the Girl and Boy Scout huts, and the most patronized of the soda fountains. Not until December, 1947, was it possible, however, to irradiate the Catholic Church. Only one group has refused coöperation, the Christian Scientists. Although the village movie was one of the first places equipped with lights, the several designs used have not been wholly satisfactory.
>
> Indirect fixtures containing thirty-watt hot cathode germicidal lamps were mounted seven feet from the floor on the end walls on the basis of two units per typical schoolroom. Expressed in the tentative terminology of the Society of Heating and Ventilating Engineers, the average intensity throughout the irradiated zone of a typical room was 19 milliwatts per sq. ft. (19 microwatts per sq. cm.) or a total lethal irradiation of 61 foot-watts for the irradiated volume of 3,200 cu. ft. Care was at all times taken to see that intensities at the working level were below the maximum speci-

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fied by the Council of Physical Medicine of the American Medical Association for seven-hour occupancy.[3]

DATA AND METHOD OF STUDY

There are certain strict requirements which must be met if an experiment such as this is to have validity. The requirements are as follows:

1. The control population must be similar in all essential respects to the experimental population except for the specific factor introduced into the latter.
2. The observation of results must be comparable for the control and experimental populations.
3. Relevant data capable of evaluation and statistical study must be obtained for both populations with equal care and exactness.

The two communities were fairly comparable with respect to size. According to the 1940 Census, there were 4,454 persons living in the incorporated village of Pleasantville, and 5,941 in the village of Mt. Kisco. Sixteen per cent of the population of Pleasantville were foreign born compared with 21 per cent in Mt. Kisco. In both communities the foreign born were chiefly Italian. Negroes formed a very small proportion of the population in either place; about 1 per cent in Pleasantville and 3 per cent in Mt. Kisco.

The periodic survey of families for the purpose of collection of illness records was the method employed in this study. All families in which there were one or more children attending grade school or high school in each of the two communities were included in the study. These families were visited every 28 days during the three school years, September to June, 1946–1949. On each visit to the family inquiry was made about acute respiratory illnesses which had occurred among their members during the past 4 weeks. Visits were not made during the summer months because it was believed that observation during that period would be incomplete since some children go to summer camps and often the entire family is away from the community for part or all of the summer.

The sickness record included the nature of the illness as stated by the informant, usually the mother, the date of onset and duration of illness, the onset and duration of disability, and the number of days in bed, the amount of medical care and, if hospitalized, the number of days in the hospital.

Acute respiratory illness includes head colds or coryza, colds with sore throat, colds with chest complications, and influenza. Their distribution in order of frequency was as follows: head colds, 47 per cent; colds with sore throat, 26 per cent; colds with chest symptoms, 22 per cent; and influenza or grippe, 5 per cent.

The method of measurement of results of an experiment such as that conducted in Westchester County is a comparison of events that follow after the introduction of ultra-violet lights in one community with events that occur at the same time in another community where that factor is not present. The events in this instance are attacks of acute respiratory illness, especially among school-age children. Since illness, as it is commonly understood, includes a subjective element, it is extremely important that the survey of illness be conducted according to standards which are applied and rigidly adhered to in both communities.

The standards which were set are as follows:

1. Visiting must be done with the same regularity in both communities.
2. The quality of work done by all of the visitors must be as nearly equal as possible.

There were three family visitors and one supervisor in each community. No visitor was to make more than ten visits a day. A careful check of the visiting rate in each community was made day by day and month by month to be sure that the work was not being done in undue haste in one community as com-

TABLE 1

Loss of Families in Each Year Due to Moving or Refusal to Coöperate, Pleasantville and Mt. Kisco, February, 1946–June, 1949

Classification	Families Visited: February–June 1946	September, 1946–June, 1947	September, 1947–June, 1948	September, 1948–June, 1949
		Rate per 100		
Moved				
Pleasantville	–	5.7	6.4	5.1
Mt. Kisco	-	4.7	5.3	5.8
Refused to Coöperate				
Pleasantville	0.6	1.7	0.8	0.6
Mt. Kisco	1.7	0.7	0.3	0.2
		Number of Families		
Total				
Pleasantville	508	541	533	513
Mt. Kisco	530	550	584	602
Moved				
Pleasantville	–	31	34	26
Mt. Kisco	–	26	31	35
Refused to Coöperate				
Pleasantville	3	9	4	3
Mt. Kisco	9	4	2	1

pared with the other. A constant check of the quality of the work of the different family visitors was made. Every effort was made to keep the visiting at an equal rate and to maintain an equal quality of work in both communities.

It was thought wise to check the school records of absences for the children in the study families in each community to see if there were any lack of comparability between the two in this respect. Consequently, the data of absences were obtained for the children attending public schools in Pleasantville and in Mt. Kisco. These data were obtained for two 3 month periods, October–December, 1945 (the year before the installation of the ultra-violet lights in Pleasantville), and March–May, 1946; the period when the lights were being installed. In neither period was there any significant difference between the two communities in the proportion of children absent because of illness. Also, there were no important differences in the incidence of absenteeism from all causes. In fact, the two communities were strikingly similar in these respects. For example, the proportions with no record of absence because of illness were 15 per cent for Pleasantville compared with 14 per cent for Mt. Kisco in the 3 month period October–December, 1945, and 20 per cent in each community during the period March–May, 1946.

Visiting was started in both communities on February 1, 1946. The mean number of families visited during the 3 years of the special study was 530 in Pleasantville and 570 in Mt. Kisco. The families in Pleasantville included some 2,100 persons and those in Mt. Kisco 2,400. In each group of families there were about 900 school-age children and 180 to 200 preschool-age children.

CHARACTERISTICS OF THE TWO COMMUNITIES

In the study of acute respiratory illness, data were obtained from each family which reveal certain social characteristics of the family. The data relevant to this analysis were: a census of the present household by age and sex of the members, marital status of the head of household, occupation and place of employment of all employed members,

and highest education attained for all members.

Before examination of the social characteristics of the two communities, it is of interest to consider the loss of families in each study year due to moving of the family or unwillingness to coöperate. Table 1 shows these data. The moving rates were fairly similar in the two communities year by year. Also, they were approximately the same in Pleasantville compared with Mt. Kisco, from 5 to 6 per cent annually. The rate of refusal to coöperate was low in both communities—less than 1 per cent of the families asked to be omitted from the study. It would certainly seem that both communities were interested in the study.

Table 2 shows that the age distribution of the study population in the two communities was strikingly similar. Selection of families with school-age children would be expected to result in a comparable population unless some particular factor operated in one community and did not affect the other community.

TABLE 2

Distribution of the Population by Age, Pleasantville and Mt. Kisco, September, 1947–June, 1948 *

Age Groups	1947–1948		
	Both Communities	Pleasantville	Mt. Kisco
Total	100.0	100.0	100.0
0– 4	8.6	8.3	8.8
5– 9	14.3	14.6	14.1
10–14	12.1	12.4	11.9
15–19	12.4	11.3	13.3
20–24	4.7	4.6	4.8
25–34	10.2	9.1	11.1
35–44	20.4	21.0	19.9
45–54	10.6	10.8	10.4
55–64	3.4	4.0	2.9
65+	3.3	3.9	2.8
Total Persons	4,866	2,312	2,554

* Includes families observed 30 weeks or more during September, 1947–June, 1948.

The age of husbands and wives (Table 3) was similar in both communities. The mean age of household heads in Pleasantville was 45 compared with 44 in Mt. Kisco. The corresponding mean ages of the wives were 41 and 40 in the respective communities.

TABLE 3

Mean Age of Heads of Household and Wives in Pleasantville and Mt. Kisco, September, 1947–June, 1948 *

Classification	Mean Age	Standard Deviation
Pleasantville		
Head of Household	45.1 ± 0.39	8.52
Wives	40.8 ± 0.38	7.76
Mt. Kisco		
Head of Household	44.3 ± 0.38	8.62
Wives	39.6 ± 0.34	7.35

* Includes families observed 30 weeks or longer, September, 1947–June, 1948.

The mean number of persons per family in Pleasantville and Mt. Kisco is shown in Table 4. The data are arrayed according to the age of the head of the household. In each community the size of the family increases as the age of the head increases. The two communities were strikingly similar with respect to the size of the family.

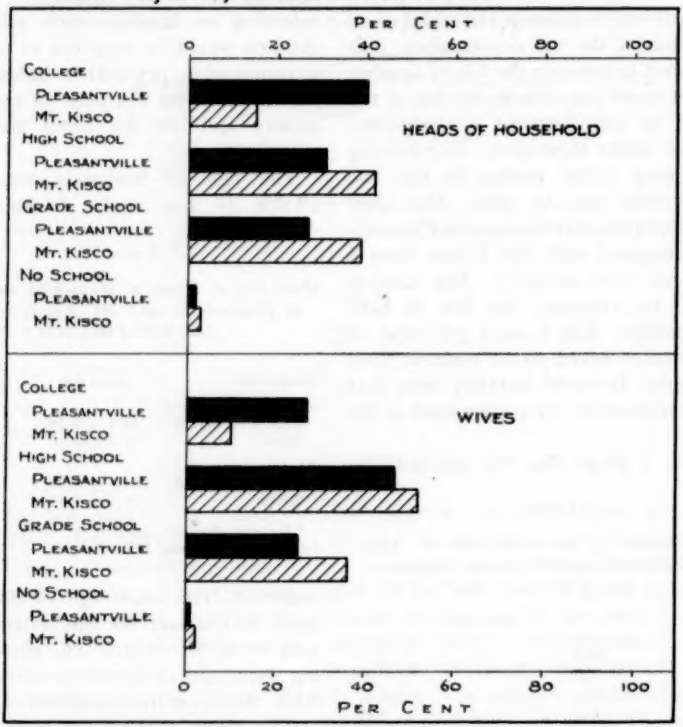
TABLE 4

Mean Number of Persons Per Family According to the Age of the Head of the Household, Pleasantville and Mt. Kisco, September, 1947–June, 1948 *

Age of Head of Household	Pleasantville		Mt. Kisco	
	Mean Number of Persons per Family	Standard Deviation	Mean Number of Persons per Family	Standard Deviation
25–39	4.47 ± 0.09	0.99	4.55 ± 0.11	1.42
40–54	4.63 ± 0.09	1.54	4.68 ± 0.09	1.52
55+	5.00 ± 0.21	1.65	5.33 ± 0.23	1.72

* Includes families observed 30 weeks or longer, September, 1947–June, 1948.

Figure 1. Distribution of household heads and wives according to highest education attained.



In 8 per cent of the families in Pleasantville and 9 per cent of those in Mt. Kisco, the head of the household was widowed, divorced, or separated from his or her spouse.

Figure 1 and Appendix Table 1, show for each community the distribution of the heads of household and the wives according to the educational attainment. The upper section of Figure 1 shows the

APPENDIX TABLE 1

Distribution of Household Heads and Wives according to Highest Education Attained, Pleasantville and Mt. Kisco, 1947–1948 *

Education Completed	*Heads of Households*		*Wives*	
	Pleasantville	*Mt. Kisco*	*Pleasantville*	*Mt. Kisco*
	Per cent			
Total	100.0	100.0	100.0	100.0
College	39.8	15.4	27.0	10.0
High School	31.1	41.9	46.9	51.5
Grade School	27.4	39.5	24.7	36.4
No School	1.7	3.2	1.4	2.1
Number of Heads of the Households †	464	494	429	470

* Includes families observed 30 weeks or longer, September, 1947–June, 1948.
† Excludes unknowns.

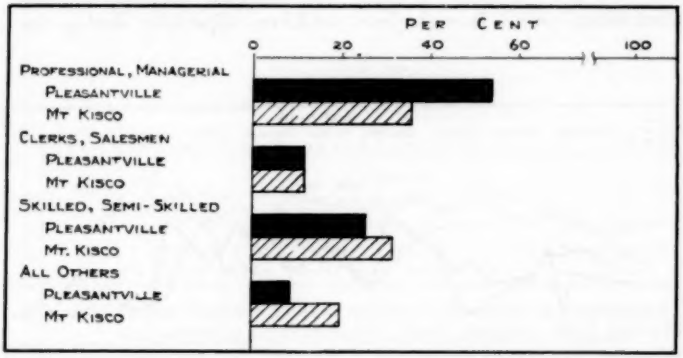
data for household heads, and the lower section shows the data for the wives. There was a definite difference between the two communities with respect to education of the head of the household. For example, 40 per cent of the heads of household in the Pleasantville families had a college education compared with 15 per cent in Mt. Kisco. The same differences were generally true of the wives in the two communities.

Figure 2 and Appendix Table 2 show the household heads in each community distributed according to occupational class. Here again there are marked differences between the two communities. Fifty-four per cent of the household heads in Pleasantville were in the professional or managerial class compared with 36 per cent in Mt. Kisco. Twelve per cent in each community were in the class "clerks and salesmen." The household heads whose occupation was classed as "skilled, semiskilled, or unskilled (all other)," formed a higher proportion of the total in Mt. Kisco than was true of Pleasantville.

To summarize briefly, the two communities were comparable with respect to: (1) the loss of families due to moving or refusal to coöperate; (2) age distribution of the family members; (3) age of husbands and wives; and (4) size of family. There was, however, a marked difference between the two communities in the educational attainment of husbands and wives and in the occupational class of the family. Occupational class is generally related to educational attainment.

It will be necessary to find out whether differences in social class and education do affect the illness rates in the two communities.

Figure 2. Distribution of household heads according to occupational class.



APPENDIX TABLE 2

Occupations of the Heads of Households in Pleasantville and Mt. Kisco, 1947–1948 *

Occupational Class	*Pleasantville*	*Mt. Kisco*
	Per cent	
Total	100.0	100.0
Professional, Managerial	54.0	35.8
Clerks, Salesmen	11.6	11.9
Skilled, Semiskilled	25.7	32.4
All Other	8.7	19.9
Number of Heads of the Households †	439	469

* Includes families observed 30 weeks or longer, September, 1947–June, 1948.
† Excludes those not employed.

INCIDENCE OF ILLNESS

The incidence of acute respiratory illness for persons of all ages and for

those of school age is shown in Table 5

TABLE 5

Incidence of Acute Respiratory Illness, September–May

School Year and Community	*All Ages*	*School-age Children 5–18 Years*
	Rate per 1,000 Population	
1946–1947		
Pleasantville	1,446	2,007
Mt. Kisco	1,297	1,682
1947–1948		
Pleasantville	1,405	1,827
Mt. Kisco	1,298	1,671
1948–1949		
Pleasantville	1,449	1,972
Mt. Kisco	1,398	1,779

for Pleasantville and Mt. Kisco in each of the three study years. In each year and in both age groups the incidence of reported illness was somewhat higher in Pleasantville than in Mt. Kisco.

A comparison of the two communities with respect to the seasonal incidence of acute respiratory illness is of interest. Figure 3 shows the illness rate for school-age children in each week of each of the three school years, including the months September to May. The heavy line indicates the rates for Pleasantville and the broken line those for Mt. Kisco. Considering the fact that two different communities are being compared there was a surprising degree of uniformity in the seasonal incidence among school children, especially during the second

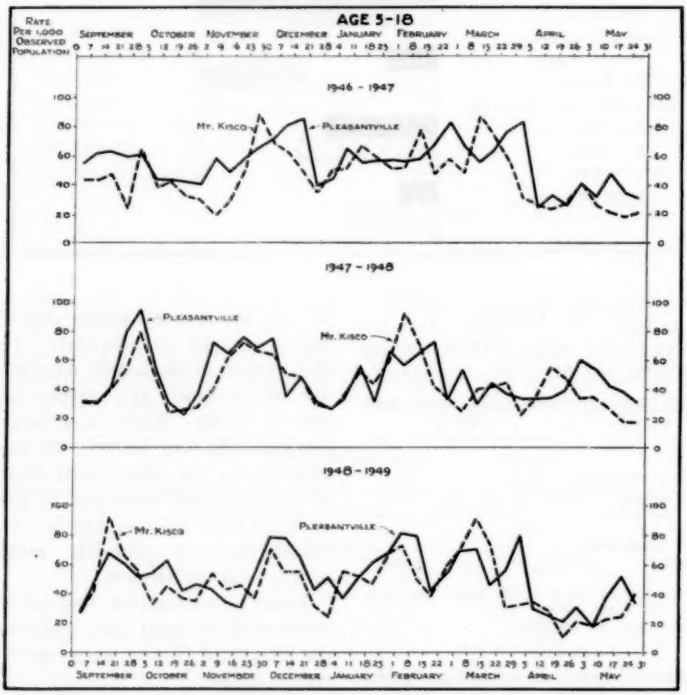


FIGURE 3—Weekly incidence of acute respiratory illness among persons aged 5–18 (school ages) in Pleasantville and Mt. Kisco, September to May, 1946–1947, 1947–1948, and 1948–1949. (Pleasantville protected by ultra-violet lights in the schools.)

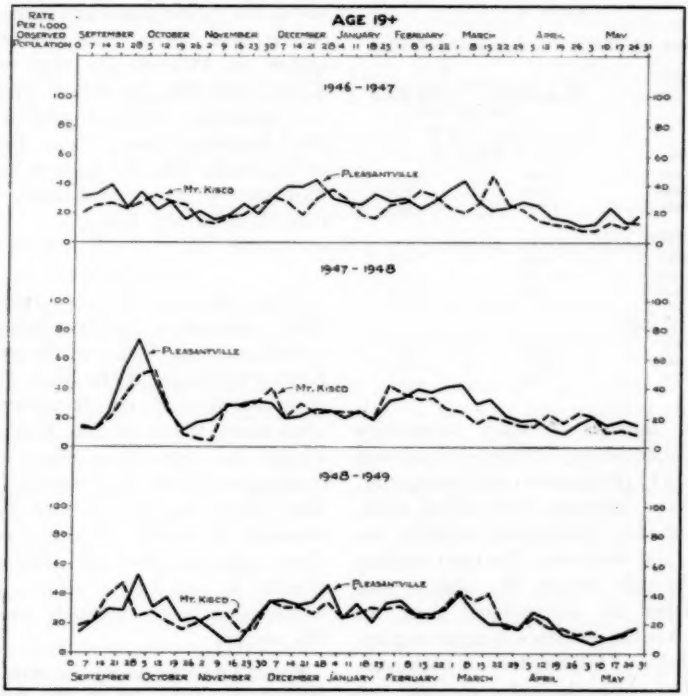


FIGURE 4—Weekly incidence of acute respiratory illness among persons aged 19 and over in Pleasantville and Mt. Kisco, September–May, 1946–1947, 1947–1948, and 1948–1949. (Pleasantville protected by ultra-violet lights in the schools.)

and third years of the study, 1947–1948 and 1948–1949.

From these data there appear to have been what may be termed as four epidemic periods, that is, periods of relatively high incidence of acute respiratory illness. One period in September, the second in November, the third in the latter part of January and February, and the fourth in April or May. These rates are based upon observation of about 900 children observed in each week in each community. Consequently, the fluctuations in the weekly rates cannot be attributed to the influence of small numbers.

Figure 4 shows the same type of data for persons aged 19 and over in the two communities. The weekly incidence in each year was fairly similar in both communities. In the second year, during the last week of September and the first week of October, the incidence of acute respiratory illness was relatively high among adults, just as it was among school-age children. However, with that exception, there were no particularly marked variations in the level of the rates week by week as was true of the school-age children.

Illness in each family was coded according to the occupational class of the head of the family. Consequently, it is possible to evaluate the influence of this factor on the incidence of illness. Table 6 shows the rates for persons of all ages

TABLE 6

Incidence of Illness by Occupational Class

Occupational Class by Year	*Pleasantville*	*Mt. Kisco*
	Rate per 1,000	
Professional		
1946–1947	1,654	1,619
1947–1948	1,694	1,655
1948–1949	1,735	1,640
Clerks, Skilled		
1946–1947	1,394	1,351
1947–1948	1,200	1,251
1948–1949	1,304	1,428
Semiskilled, Other		
1946–1947	1,086	1,034
1947–1948	1,017	1,032
1948–1949	942	1,157

in the families in each community classified according to three occupational classes: (1) professional and managerial; (2) clerks, salesmen, and skilled workers; and (3) semiskilled workers, unskilled, and domestics. The most striking point brought out by the table is that the higher the occupational class, the higher was the incidence of acute respiratory illness. This was true of both communities. Also the rates for the two communities, specific for occupational class of the household head, are much more similar than the total rates were without consideration of this particular classification. The same general pattern was evident when the data were classified according to age. It should be added that the distribution of the population by age is similar in each of the three family groups.

Table 6 shows very definitely the influence of a subjective factor, family attitude toward illness, which may affect reported attacks. There is no good reason to believe that acute respiratory illness is selective of persons in one particular social class compared with another. If that be true, it must be concluded that what is considered as illness in one family is not necessarily considered so in another family.

It will be remembered that the proportion of families where the household head was in the "professional and managerial" occupational class was considerably higher in Pleasantville than in Mt. Kisco, and that the latter community was somewhat weighted with those in the "unskilled labor" class. This may be the reason why the rates of illness in Pleasantville were consistently higher than those in Mt. Kisco.

CONCLUSIONS

From the data of acute respiratory illness observed in families during three school years in Pleasantville and Mt. Kisco (September, 1946–May, 1949) it is apparent that the introduction of ultra-violet lights in the Pleasantville schools and other places where children congregate did not affect the illness rates. Also, there was no evidence that the seasonal or weekly incidence of such illness among school-age children was affected in any way. In fact, the two communities were strikingly similar in this respect.

NOTE: Acknowledgments are made to Dr. Mildred W. Wells and to the Westchester County Department of Health for generous assistance and coöperation which greatly facilitated the study of acute respiratory illness.

An especial acknowledgment is made to the families in Pleasantville and Mt. Kisco who participated in the study.

Miss Sally Preas, formerly of the Milbank Memorial Fund, assisted in the organization of the study and in the training of the family visitors.

The members of the field staff in Pleasantville were: Miss Anne Sage Hubbell, supervisor, Misses Katherine Simon, Martha Perkins, and Jane E. Coulter.

In Mt. Kisco: Mrs. Frances Conn, supervisor, Mrs. Marguerite Keller, Misses Virginia Boggs, and Grace Strangio.

Miss Jeanne Clare and Mrs. Arolyn Conwill assisted in both Mt. Kisco and Pleasantville.

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Pattern and Problems of Group Medical Practice*

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THERE has been a radical revolution in medical science, which is now being followed by a gradual evolution in medical practice. Group medical service is being developed to coördinate the specialized knowledge and skill of individual practitioners, and to utilize effectively the public's investment in diagnostic and treatment facilities, including hospitals.

In discussing the "patterns and problems" of group medical practice, the following statements about medical care are presented as objectives concerning which there can be no dispute, or self-evident facts which do not require proof in this essay.

1. Comprehensive medical service includes prevention, diagnosis, treatment, case finding, rehabilitation, and health education.
2. Good medical care should be coördinated, continuous, and related to the entire personality and the individual's environment.
3. Education and research are closely related to service and cannot be sharply segregated.
4. Medical practitioners can accomplish better results by working *with* each other than *against* each other.
5. Medical care can be produced and distributed most effectively when physicians and patients are free to perform and receive services with a minimum of concern about financial costs.
6. Health practitioners and patients strive more or less consciously toward these ends in all medical service programs.

Group Medical Practice is a program for prevention, diagnosis, and treatment, the essential characteristic of which is a *common interest by a number of physicians in the care of individual patients.* The doctors share their knowledge and skill in determining and providing the necessary services. Observable features of group practice include: specialized professional qualifications of the practitioners; contiguity of professional offices with availability for regular and frequent consultations concerning individual patients; joint use of supplementary services; some joint ownership of equipment, apparatus, or buildings; coöperative, rather than competitive division of total income among the group.

ORIGINS OF GROUP MEDICAL PRACTICE

Group practice is a process, rather than a form of organization. The central theme—a common interest in the patient—is always present. But the variations are numerous. Some group practice may be *intermittent,* rather than continuous, as in the exchange of opinion during ward-rounds in a hospital. Some group practice may be *part-time,* rather than full-time, as in the sessions attended in a hospital outpatient department, or office appointments at a clinic serving prepayment contract patients. Some group practice is for *diagnosis* only, with treatment procedures becoming the responsibility of individual doctors. Some group practice is limited

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to *special groups*, such as contract patients, rather than the general public. Some group practice is limited to *referred cases* with no acceptance of patients who do not have a personal physician. Some group practice is limited to economic classes, such as persons of *moderate means* or those unable to pay current established fees.

The evolution of group practice was inevitable. The *development of specialization* in medical knowledge and skill has forced a degree of coördination in medical practice. This trend is similar to that which occurred in private business when artisans began to specialize in detailed processes of building construction, the manufacture of clothes, or the preparation of food. As medical knowledge deepens in specific areas, it must be shared through conference and observation; otherwise, its values are not effectively utilized in prevention, diagnosis, and treatment. Medical service has become characterized by an *increasing reliance upon capital investment* for adequate diagnosis and treatment. Illustrations are x-ray apparatus, laboratory equipment, operating rooms, and complete hospitals for bed cases. Even if one doctor could finance the purchase of such plant and equipment, he could not personally perform each professional or technical service. He would need to rely upon subordinate or coördinate practitioners for most of the work, who, in turn, would be required to coördinate their services by conferences, records, and reports.

Specialization in knowledge and skill and the use of capital investment in medical practice are *causes*, not *results*, of group practice. The scientific and economic aspects of present-day health service make it necessary that the various phases of diagnosis and treatment be coördinated. ***The general hospital is the natural site for the greatest development of group practice in America.*** The medical specialists are already spending a great deal of time at hospitals in the care of patients who need bed care during a portion of their diagnosis and treatment. The hospitals contain the greatest portion of the specialized equipment for diagnosis and treatment, together with a full-time staff trained to use the facilities under medical supervision.

There has been a traditional Chinese Wall between services to horizontal and vertical patients in hospitals. But the gates were opened when private practitioners found it more convenient to serve their non-paying ambulatory patients at the hospital where publicly provided apparatus could be used without a rental charge to the doctor, and where nurses and medical students were available to assist the private physicians. The individual doctors are now finding it increasingly convenient to use hospital facilities for the consultations and treatments for paying cases.

PATTERNS OF GROUP PRACTICE

The patterns of group practice in the United States may be classified by several standards, such as degree of full-time participation, degree of hospital affiliation, scope of health services offered, groups eligible for service, or other bases. The following listing emphasizes the administrative characteristics of various forms of group practice. It does not include the hospital outpatient departments conducted for the "worthy poor."

Private group clinics—This form of group medicine includes a number of individual practitioners representing several specialties, who work together in adjacent offices, most of them on a full-time basis. They usually rely upon local hospitals for the bed care of their patients and for provision of the more unusual types of scientific apparatus and equipment; but they may own and operate radiological and pathological

laboratories and may perform minor operations at the central offices. They are in economic competition with other doctors, but not with each other.

The headquarters may be in office buildings or separate structures which are owned or rented. The doctors are usually organized in partnerships, but corporations may be established for the ownership of property and the employment of the doctors. Ordinarily, the clinics are open to the general public for all types of service, but a certain number of cases are referred by other doctors. They may have special contracts with insured patients, but most groups rely upon such revenue only to a limited degree.

Private clinics tend to be located in the smaller cities, and the medical personnel ranges from 3 to 300 individuals. The largest number have been organized west of the Mississippi River, in part through the influence of the Mayo Clinic at Rochester, Minn. The number of such groups is variously estimated at from 300 to 500, depending on the standards used for the listing.

This form of group practice represents the pattern most easily applied to present-day medicine by a group of physicians desiring to coördinate their efforts in the prevention, diagnosis, and treatment of disease and in the study and development of a positive health program. Some of the private clinics established to serve individual patients have relied greatly upon prepayment contracts with groups of employees and their dependents or with employers for the care of industrial compensation cases. An example of this type of clinic is the Ross-Loos Medical Group in Los Angeles, organized in 1929. It now includes 115 physicians and serves about 110,000 people on an insurance contract basis, as well as the general public. Hospital care is obtained in local institutions.

Full-time hospital staffs—The outstanding example of this type of group practice is the Ford Hospital, established in 1915 at Detroit, Mich. Other significant examples are the Cleveland Clinic and Hospital, the Geisinger Hospital at Danville, Pa., the Guthrie Clinic and Robert Packer Hospital at Sayre, Pa., the Hitchcock Memorial Hospital, Hanover, N. H., the Underwood Hospital, Woodbury, N. J., and the Trinity Hospital, Little Rock, Ark.

These groups merge the outpatient and inpatient professional services at the hospital; the physicians are engaged on a full-time basis for annual salaries; the institution is open to the general public for both general and specialized care and for referred and walk-in patients. An exception is the Pratt Diagnostic Clinic and New England Medical Center Hospital, Boston, which are limited almost exclusively to cases referred by other physicians.

This form of full-time closed staff has seldom developed (if ever) from a community general hospital with an attending and courtesy staff. Usually, the institutions have established closed staffs at the time of their organization. In some cases, a private clinic has obtained control of an existing hospital or has constructed bed facilities for its own use. Combined institutions with full-time closed staffs have seldom been the recipients of city-wide philanthropy. But a number control endowment funds provided by an original donor or accrued from the net earnings of the private medical practice.

These organizations may accept insurance patients on the same basis as other practitioners and hospitals, but typically they do not rely upon group prepayment for their financial support.

In this group may be included the full-time medical faculty of the University of Chicago Clinics which accept diagnostic and treatment cases from all income levels in the general public, and which utilize all patients as teaching

material when they are suitable for the purpose.

Medical groups organized for insured or other special groups—Within the past three decades a number of clinics have been established to serve special groups of the general public. These include the full-time staffs of industrial plants, such as the Endicott-Johnson Company and the many private clinics in the Pacific Coast States which have contracts with employed firms to serve their employees and dependents.

More significant for the future are the groups established in connection with consumers who have provided capital facilities on a coöperative basis with small contributions from each member eligible to medical service benefits. Examples are the Elk City Hospital in Oklahoma, the Labor Health Institute in St. Louis, and the Group Health Cooperatives in Seattle and the District of Columbia. The clinics typically accept patients from the general public, and some of the practitioners are engaged on a part-time basis for service at the clinic. But the final objective in most instances is the development of a full-time staff devoted to a program of constructive health service on a prepayment basis.

The "giant" in this category of group practice is the Health Insurance Plan of Greater New York, which has aided in the establishment of 30 medical groups, with a total of 900 physicians, to serve the now 250,000 participants in a comprehensive prepayment program for prevention, diagnosis, treatment, and health education. This organization began services to patients in 1947, and was aided in its establishment by grants from several foundations. H. I. P. is one of the few organizations which began with a three dimensional program, namely: full-time group practice by doctors; group prepayment for entire families; comprehensive service in the home, office, and hospital. Most other organizations established either group practice or group prepayment independently of each other, and usually limited the service to specialty work or the coverage to catastrophic illnesses.

Part-time medical groups—These groups are usually limited by the character of service provided or the method in which cases are accepted. Examples are the Mt. Sinai Diagnostic Clinic in New York for referred patients of moderate means; the Vanderbilt Clinic in New York for diagnosis and treatment of patients of limited incomes; the Benjamin Franklin Clinic of the Pennsylvania Hospital in Philadelphia for flat rate diagnostic service to referred patients of any income level; the Private Out-Patient Service of the Johns Hopkins Hospital, Baltimore; the Boston Dispensary which provides home care, as well as office service.

The part-time clinics have not grown rapidly in number, although some have increased their volume of service greatly, as the public has become aware of the available benefits. As a general rule, "reference" clinics have relied upon cases referred by doctors outside the immediate private practice trading area. This form of organization tends to become a general service available to walk-in patients, or to remain a limited activity for the convenience of the member physicians rather than the general profession and population. Diagnosis and treatment are inseparable in the patient's mind, and attempts to maintain a division are not approved or accepted by the general public.

Private ambulatory service—The most prevalent, but least spectacular, group practice is the intermittent or regular use by individual doctors of hospital personnel and facilities in diagnostic service for private patients. This may take the form of reference of a patient

to the hospital for x-ray films, examination, or treatment, for laboratory examination, or for conference with various medical specialists. The doctor may utilize hospital consulting rooms on a regular or intermittent basis for conferences with his patients and the various members of the hospital staff.

This trend represents "group practice *a la carte.*" The solo doctor may carry it *as far as* he wishes, and *when* he wishes. But the practice is growing rapidly. In total volume this work probably exceeds that of organized group practice by full-time and part-time clinics throughout the country.

Some physicians have viewed this trend with alarm, as placing the hospital in the practice of medicine, and making the solo doctor dependent on hospital personnel and facilities for the conduct of his practice. But service to private ambulatory patients may be more accurately regarded as a protector of individual practice, the absence of which would require direct hospital control over much diagnostic and treatment service. The alternative would be for the solo doctor to continue hand-bag medicine without regular contacts with specialized knowledge, skill, and facilities. Moreover, the regular contacts by general practitioners with hospitals may lead to appropriate staff appointments for such physicians and their integration with formal group practice which may develop at such institutions.

Physicians should be guided by enlightened self-interest in their decisions to participate in group medical practice. The "fate worse than debt" for the physician is the loss of self-determination in the practice of his profession. Statistics indicate that, on the average, physicians fare better financially under group practice than individual practice. But specific individuals (often the ones with the administrative genius to organize a group) might earn more income "on their own," and also be free from the trials of holding a medical group together. *Leadership is the missing link in the growth of group practice, for those best able to organize a group often have the least financial incentive to do so.*

PROBLEMS OF GROUP PRACTICE

The following list of problems facing the establishment and continuance of group medical practice does not cover all opportunities and difficulties which must be faced, but they are submitted as representatives of some of those which will be faced at one time or another:

1. *Motivation*—A clinic may be established for any of a variety of reasons, such as: the improvement of quality of medical care; the lowering of costs to patients; the increasing of income to physicians; the stabilization of working conditions for doctors; the training of subsidiary personnel; a demonstration of the advantages of coördinated practice; the freeing of physicians from direct concern about economic problems; etc. In the writer's opinion, *the sustaining motivation for physicians must be their personal self-interest, not social reform or demonstrations in medical economics, or even the avoidance of socialized medicine.*

Self-interest cannot be measured exclusively in terms of current income or future estate. More important is the *opportunity for personal and professional self-realization.* Group practice must expand rather than contract the doctor's opportunity to work as an individual and a professional man. The economic security of group practice must be accompanied by personal freedom to care for patients in accord with their needs, and to practise medicine at the highest attainable level of quality.

Much discussion of group practice has assumed that it is a form of revolution in the field of health service. From a logical point of view, a medical group is no more revolutionary than a baseball

team. Each member has his position to play, and effectiveness depends upon team work rather than star performance. In the long run, group practice must reward individual doctors more adequately than does individual practice.

2. *Provision of working capital*—Group practice involves less "per capita" investment by medical practitioners than does a group of individual private offices. The borrowing power of a partnership is enhanced by the demonstration of willingness to coöperate in professional activity. Vendors of scientific apparatus and equipment are typically more willing to extend credit to a group of physicians than to individual doctors. A group of physicians who have determined to carry on group practice seldom face difficulties in obtaining necessary working capital. Moreover, they can begin with partial facilities and arrange for temporary use of special apparatus on a rental or fee basis from other organizations.

3. *Selection of site*—There is no one best location for a private clinic, geographically or as to type of building structure. Downtown offices, separate suburban buildings, portions of a hospital plant—all have advantages and limitations. Other things being equal, a medical group should not be "too far" away from the patients to be served or the related facilities (such as hospitals) which are utilized from time to time. But the public will soon discover the source of good service.

4. *Scope of service*—Medical groups should be prepared to deal with all types of illness and any member of the population. If the group does not include the specialized knowledge and skill for certain treatment, arrangements should be established for other physicians and institutions to furnish necessary care. As a general rule, a clinic should direct patients to proper medical service, rather than merely refuse to accept certain categories of illnesses or of the population.

The number and specialties within the medical group are influenced by a variety of factors such as size of the community, available supplementary facilities, and the prospective amount of "referred" work as contrasted with care of minor ailments. An important factor is the degree to which a medical group utilizes subordinate personnel for routine diagnostic or treatment procedures, as well as personal contacts with patients.

5. *Fees to be charged*—A medical group should not be a "cut rate" organization, but should be able to offer a patient (or group of patients) more for his money than an equal number of competing practitioners. It is the total cost, rather than the detailed charges, which interests the prospective or actual patient. Composite fees established in advance give a sense of security and gratitude to the patient. He often will pay in full because of the certainty as to the amount. Medical groups are particularly equipped to establish composite fees for a variety of different services, since the total income accrues to all practitioners.

6. *Distribution of income*—Most defunct clinics have prospered financially, as far as total income is concerned, up to the point of dissolution. Without exception, their greatest difficulty was the determination of each physician's share in the net earnings of the group. A medical group cannot distribute net earnings to physicians solely on the basis of each one's volume of service.

Variables to be recognized in establishing a doctor's share in the net income of group practice include the following:

a. Degree of administrative responsibility
b. Amount of capital investment
c. Length of service with the group
d. Demonstrable popularity with old patients

e. Demonstrable "pulling power" with new patients
f. Contribution to quality of service through research or teaching ability
g. Interest in health conservation and health education
h. Relative scarcity of his special knowledge or skill
i. Ability to perform an unusual volume of high quality service

7. *Relations with individual practitioners*—A medical group is both a supplement and a competitor of the practice of individual doctors. Even referral groups are a potential threat to the economic security of non-member physicians. Competition based on quality, rather than price, will ultimately win the respect of many individual doctors. The maintenance of cordial professional and personal relations with non-group physicians requires considerable effort and attention.

8. *Relations with hospitals* — These problems are continuous for medical groups and often very difficult. Under ordinary circumstances, use of a voluntary hospital is preferred to the purchase and management of a proprietary institution. In the long run, it is more rewarding to make peace with the local medical profession concerning use of an existing hospital than to run the risk of excessive facilities by establishment of a new institution.

9. *Use of subsidiary personnel*—The medical supervision possible in a clinic permits nurses and other technically trained employees to perform many procedures which otherwise consume the time of a physician. This applies particularly to the use of nurses in response to house calls and the performance of follow-up procedures prescribed by a physician.

It is desirable that a nurse should not "practise medicine." But it is also important that a doctor should be freed from the necessity of performing nursing procedures.

Group practice should permit specialists to use their knowledge and skill to the greatest degree. General practitioners and non-medical personnel should be colleagues rather than competitors.

10. *Varied administrative problems*—Group medical practice faces many administrative problems in its development and growth. Some of them are:

a. Care of patients during personal absences
b. Need for intensive service to cases requiring special study
c. Old age and retirement allowances
d. Full-time use of young physicians
e. "Tapering-off" of services by older physicians
f. Attention to health education
g. Skillful and humane handling of malingerers
h. Attention to psychological factors in treatment and recovery
i. Responsibility for home calls and night service
j. Recognition of unusual knowledge or skill
k. Scheduling the use of apparatus and equipment
l. Informal consultations in dagnosis or treatment
m. Authoritative contacts with regulatory bodies
n. Interpretation of services to the general public
o. Sub-contracting with prepayment organizations, particularly for home and office calls which involve a substantial degree of "moral hazard"
p. Periodic appraisal of quality of service
q. Study of medical records
r. Statistical analysis of services performed and results achieved

CONCLUSIONS

1. The development of group medical practice will be dependent upon the degree to which doctors consider such activities as favorable to their immediate and long-run self-interest. Opportunity for unfettered professional service is a greater factor than size of total income.

2. Doctors with a genius for business organization are also usually successful private practitioners. The main admin-

istrative need in group practice is an attitude of common concern for the patient's recovery and health maintenance. This is more important than brilliance in the field of management, or unusual scientific knowledge and skill. In group practice the whole is greater than the sum of its parts.

3. Courage and determination are more important than plant and equipment or working capital. The public stands ready to provide working capital for responsible medical groups by one of several processes:

a. Contributions by patients who expect to be served, such as members of a coöperative or insurance organization
b. Private loans from commercial banks or vendors of medical equipment
c. Offers of the use of public facilities in hospitals or health agencies

4. An important area for the development of medical group practice is the gradual transformation of hospital outpatient departments from limited service for the "worthy poor" to general service to the entire public.

5. "Restrictive" group practice will probably not become a significant phase of medical service in the United States. This prediction applies particularly to diagnostic or referral clinics, as well as medical groups limited to service to industrial firms or single insurance corporations.

6. The public does not distinguish between functions of diagnosis and treatment and wishes to receive complete medical care from the same medical organization.

7. Group medical practice is a way of life and an attitude toward health service, not merely an administrative device to increase quality, reduce costs, or to stabilize medical income.

8. Group medical practice is a process of "evolution" which is developing gradually. It is following upon a series of "revolutions" in medical science. Specialized knowledge and skill in the field of medicine require the use of group practice in their application to prevention, diagnosis, and treatment. But a "cultural lag" still remains between what is *known*, and what is *being done* about it.

Lectures to the Laity—New York

The New York Academy of Medicine Lectures to the Laity are in progress. Now in their 16th year, they "are intended to bring to the public knowledge and understanding of the significant developments in medicine, and insight into the intricate processes by which these developments are achieved." Of the three remaining lectures in the current series of six, on January 17 and 31 and February 14, two are on antibiotics, the quest for them and the miracle of their mass production, and one is on Life Situations, Emotions and Bodily Disease. All lectures, free to the general public, are held in the Academy of Medicine Building, 2 East 103rd St., New York, at 8:30 P.M., and are broadcast over the New York City municipal radio station.

Slough Industrial Health Service

An Experimental Group Service for Small Plants

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THE Slough Industrial Health Service is an experiment developed by the Nuffield Foundation, a voluntary body with aims somewhat similar to the Rockefeller Foundation, and by a Trading Estate at the town of Slough some twenty miles west of London. The trading estate was itself a pioneer venture after the first world war. It was started on the site of an abandoned army dump so as to give small industrial plants a chance of setting up with facilities which only big firms with plenty of capital usually enjoy. Multipurpose factory bays were laid out like houses along a street and supplied with good road and rail access. In an area of about two square miles there are over 250 firms employing more than 25,000 workers.

The plan was to develop a comprehensive medical service for small plants, associated with a rehabilitation and recuperative center to insure rapid return to industry, not only of those suffering from the effects of industrial accidents, but also of manual or non-manual workers recovering from sickness or operation. The organization of such a center, as well as the development of a medical service for a large group of small firms, presented problems of relationship and organization for which there was no guide. The scope and nature of the services to be included under the term "comprehensive medical service" were to be decided by experience and experiment. Naturally the scope of the service depended upon the nature of the medical services already provided in the area. The scheme made a flying start in May, 1947, under the direction of Dr. A. Austin Eagger, and at the end of the first year was responsible for nearly 10,000 workers in 100 firms, and now looks after 14,000 workers in 130 firms.

A health service comprises many intangible as well as tangible factors, but it was realized that the first thing a firm appreciates is an efficient casualty and accident service, and on this foundation must be developed a good personal medical service for workers requiring examination or advice. The ultimate value of the service must depend upon possessing the confidence and good will of management and workers alike. These initial years have therefore been spent largely in establishing the foundations.

Workers' coöperation—Whenever a firm expresses a desire to join, the aims and principles of the service are explained not only to management, but also to groups of the workers. Once a month a workers' representative committee meeting is held, to which delegates from each firm may come to express their views on the service by criticisms destructive or constructive; an outline of service activities is given, and points of interest are discussed. It is frequently emphasized that, just as the service is a pioneer unit, so these firms are pioneers in using the service, and their views are indispensable not only regarding medical service within the factories, but also to develop right relations

with other community health services. Minutes of the meeting are circulated and displayed in the factories, and efforts are now being made to foster health committees within the factories, having close links with management as well as workers. In some of the larger plants there is a Works Council which takes a keen interest in health problems.

Environmental surveys—Surveys are made of every firm on joining, and hazards, safety measures, and problems affecting health are discussed. When an accident or case of dermatitis, dust or fume hazard occurs, an immediate investigation is made and where possible advice for improvement is given. In addition regular routine visits are made to all factories by doctors and nurses to keep in touch with the environment and the workers with a view to prevention rather than cure.

Industrial health engineer—A well qualified engineer has completed his training in America under the guidance of Professor Philip Drinker, and is helping to start in conjunction with the Service and the London School of Hygiene and Tropical Medicine a team on the same lines as the industrial hygiene laboratories of America, where the technique and organization is much more highly developed than in this country. His expert advice will be of great help in environmental survey and control. He will enable clinical findings to be assessed in terms of environmental studies on a long-term basis, and vice versa.

Medical examinations—Voluntary medical examinations are offered and serve the fourfold purpose of reassurance, incidental health education, disease detection, and establishing close contact and understanding with as many individuals as possible in each firm. When later these individuals report sickness, their condition can be estimated in the light of previous examination during relative health. There is no doubt that in these contacts with individuals and firms from day to day the industrial medical officer and nurse, to some extent, play the part of a catalyst in industrial relations, and much of the work is comprehensive medicine applied to industry.

The problem of reassurance is put first in these examinations because in aggregate, in a long series of examinations, this factor is most important. There are not many individuals who have no frank or suppressed fear that some part of their body is not functioning properly, and it is often astonishing to see the evident relief of a man who is declared fit. This relief may well result in better work and less tendency to go slow or go sick for an otherwise trivial complaint.

The same points apply to the initial employment examinations, which are being increasingly carried out at the request of managements, though here fitness for the job so that the man is not likely to harm himself or his fellow workers is given special attention. On the basis of these examinations it is often possible to give direct or indirect advice to management on the health of their workers, physically or mentally, in ways affecting individuals or groups. The most expensive investment of a firm is the people it employs; an expensive machine can be wrecked by a man who is careless through ill-health, and idle machines cost money. Firms cannot afford to have their senior executives less than fit. In many ways they are realizing that good health is good business, and that good health facilities are a step toward good morale.

First aid—The value of well trained first aid attendants in the plants is fully recognized, and regular classes are held to qualify for elementary or advanced certificates in first aid. The nursing staff have special responsibility for

training and visiting these first aid workers at their work, and here, as in all their contacts, have a great and fundamental contribution to make to industrial health. In winning the confidence of workers and encouraging them to come for early treatment, as well as in bringing helpful information to the doctor, the nurse in industry is invaluable. Recently two out of three national scholarships for industrial nursing were won by nurses trained in our service.

Organization—As mentioned earlier, the service developed round accident and casualty work. There is a central clinic with administrative, treatment, diagnostic, physiotherapy, chiropody, and record departments. Two ambulance posts, each staffed by a state registered nurse, are sited to serve groups of firms. Several of the larger firms have their own medical departments with trained nurses supervised and visited daily by doctors from the service. An accident van equipped with stretcher and medical equipment is ready at any time to go with a doctor and nurse to deal with serious accidents. This has done valuable work and is much appreciated.

A unique feature of the organization is a mobile dressing station consisting of a large closed truck equipped as a minor surgery and consulting room. This visits groups of member firms in the morning, especially those most distant from the centers mentioned, with a nurse to do routine dressings. In the afternoon it goes by appointment with a doctor and nurse to do consultations and medical examinations. This mobile dressing station is a facility which saves a great deal of time for firms, as workers can leave the factory, get treatment, and return in the space of a few minutes. This encourages workers to get early treatment, instead of waiting and hoping, until sepsis sets in or some other condition becomes serious.

The local hospitals are not well sited to serve the town of Slough which has grown rapidly, and so by special arrangement accommodation for outpatient departments of the hospitals has been provided at the central clinic of the service where specialists hold their clinics. An arrangement of this sort naturally depends upon the position of the hospitals relative to the community they serve. In this case it helps to promote close liason and saves considerable time for the workers. The arrangement is in line with the general policy of hospital decentralization and bringing specialist clinics into association with health centers of which the central clinic is a type. Quite apart from the value to the patients, it serves the important purpose of bringing specialists and general physicians together.

So far little has been done to link the service with the activities of the Local Health Authority, though here the first close link may be the common interest in the welfare of juveniles. It is possible that some use could be made of health visitors employed by the Health Department.

General practitioners—One of the difficult problems facing the service was that of coöperation with general practitioners. Most doctors are conservative and no new organization is readily accepted. Some doctors objected to their patients having contact with any other doctor, even though this might be the means of getting early help or bringing some potentially serious ailment to notice. Others perhaps disliked invidious comparisons when their lack of facilities for treatment and crowded offices were compared with the special facilities of the service clinics. Others were against it on principle, while some coöperated well from the start.

At the beginning patients reported that letters from the clinic to their private physician were sometimes torn up or thrown ostentatiously into the waste

paper basket. Some felt their interests were jeopardized if they came to the service first. Very great care had therefore to be taken to do nothing that might conceivably cause offense to the general practitioner. Emergency treatment is given and any treatment necessary to keep the individual at work, but if on examination some further action is thought advisable, a letter of explanation is sent to the doctor concerned, and it is left to him to advise the patient. Relations have steadily improved, and when the National Health Service was introduced in July, 1948, many doctors were glad to have their burden eased by aid from their colleagues in industrial practice.

It is shortly hoped to have the assistance of one or more general practitioners who wish to do part-time work in industry. There is no doubt that a national industrial health service would have to depend largely upon the part-time work of general practitioners. It is hoped that these doctors will have special training for their task, and in addition doctors in group practice may include in their team a colleague in full-time industrial practice to whom they may refer for advice on occupational health problems, and who can supervise their patients in factories. The experience at Slough suggests that this might in some cases provide a good solution for the problem of coördinating general practitioner and occupational health services. One thing is certain, the future must see a great development of group or team practice with health center facilities, and of this team the whole- or part-time industrial medical officer should be an essential member.

Rehabilitation center—This is at Farnham Park, a beautifully equipped country house standing in lovely grounds, and has accommodation for 70 patients. The gardens are a delight to the eye and spacious for walks or recreation, the rooms are furnished like a private house. Patients come from hospitals in London and a wide area round Slough as soon as they can get out of bed and move about, on crutches or sticks, with every conceivable disability. Every effort is made that there shall be no institutional atmosphere about the place and that the patients shall feel at home. At many convalescent homes individuals were left to their own devices and often to mental and physical stagnation or depression. The program at Farnham Park is so arranged that the patients in their various grades are kept reasonably occupied. In addition to physiotherapy, occupational therapy, and individual or group physical exercises, they play games such as deck tennis, croquet, putting or bowls, or work in the garden where possible. An educational and recreation officer arranges periods for talks, discussions and, when desired, amusing diversions particularly in the winter months.

During their stay the patients are encouraged to feel a sense of responsibility for their own and their companions' welfare, and for the development of the center as a place where all may recover health and the ability to work. They have their own committee and are largely responsible for their own discipline. They welcome all new patients and make them feel at home, besides taking a keen share in the organization of their own amusements.

It is considered that centers such as Farnham Park should be staffed and run by nursing and medical personnel having intimate knowledge of industry and able to form a link between the specialist in hospital, and the individual in his working environment. On admission, each patient is given a very thorough overhaul and graded into one of four groups according to his physical capacity. Conferences are held weekly, attended by the staff, at which each individual is discussed and agreement is reached on the best method of promot-

ing his welfare. Patients are kept in close touch with the physician or surgeon responsible for their admission. At intervals, either the patient returns to hospital for interview, or the specialist visits the center. The average length of stay is about six weeks.

Occupational therapy—Special use is made of occupational therapy not only to restore function, but to stimulate the desire to create and to recover. The work done has a socially creative function. Many workers come from dull routine and work on semi-automatic machines. The lack of stimulus breeds frustration and the growing malady of industrial neurosis. Many experts advocate return to an industrial environment at the earliest possible moment. For rehabilitation, they would put a man to work on a machine in the atmosphere of a factory even though his economic output was negligible. At Farnham Park this is avoided. Men and women come from hospital as soon as they can walk, and in attractive workshops they have a choice of about 30 crafts which serve the dual purpose of arousing interest and restoring function. The joy of creation is stimulated and they have the delight of gifts for home or friends. Often before he is aware of it an individual recovers and can do more that he had dared to hope or even wished to achieve. The crafts involve the use of a variety of machine tools, and thus the atmosphere of the department is not too remote from normal life. In selected cases, after initial rehabilitation, crippled people are sent to other centers to learn a new trade.

Records and statistics—These present difficult problems for the service, and much assistance has been obtained from the Nuffield Bureau of Health and Sickness Records at Oxford. This Bureau is responsible for coding, punching, and sorting cases from all the daily record sheets kept by individual clinics. From these records a monthly analysis is prepared of types of accident or sickness or other reasons for attendance at clinics. An individual record card and special medical examination form is kept for everyone using the service.

During the year 1949–1950 a total of over 15,000 new cases, and 43,000 revisits were handled by clinics directly staffed by the service, and 35,000 new cases and 74,000 revisits were handled at medical departments supervised by the service. Over 3,000 adult physical examinations were carried out beside more than 1,300 juvenile examinations.

Firms with their own medical department supervised by the service employ over 5,000 workers and, as might be expected, the use made by workers of facilities within the firm is much greater than for similar facilities outside. The size distribution of firms within the service is as follows:

No. of Persons Employed	*No. of Firms Participating*	*Total No. of Employees Covered*
0–25	47	700
26–50	28	1,000
51–100	22	1,700
101–250	23	3,500
251–500	4	1,300
500+	6	5,800
Totals	130	14,000

Staff—Including the work at Farnham Park the service directly employs 4 full-time doctors, 10 state registered nurses, 2 assistant nurses, and 2 first aid attendants beside 5 physiotherapists, 2 occupational therapists, and other special workers. Added to this, 4 of the larger firms have their own medical departments with nurses in charge supervised by medical officers in the service. Three of these firms are visited daily, one twice a week. Two firms have their own medical department and doctor, but use the service for all special requirements

such as x-ray, physiotherapy, and serious accidents.

Cost—Member firms pay 14 shillings per head for each worker, or 10 shillings if they have their own medical department, but the cost of the service is over 33 shillings exclusive of Farnham Park. The balance is provided by grants from the Nuffield Foundation and National Health Service through the Regional Hospital Board. The Regional Board also pays for the patients at Farnham Park, where the cost is just over £7–7–0 per head per week. These figures are much lower than costs ascertained from any other industrial medical service.

But for the urgent need to keep down expenditures, the scope of the service might be increased in a number of ways, for instance by the employment of an industrial almoner or by the aid of an industrial psychologist to study aptitudes, especially of juveniles.

There is at present no psychiatrist attached to the staff, and if such a person were available, not as a mental specialist but as a doctor on the staff to whom an individual could be referred for a further opinion, he could be of very great help. With the right training, something might be done to foster good human relations in industry, and the service could provide a training ground in these matters for doctors, nurses, and other personnel in industry.

Earlier it had been hoped to include a dental department, with a dentist on either a full-time or sessional basis. At first this scheme met strong opposition from local dentists, but since the inception of the national dental service the difficulty has been shortage of accommodation and difficulty in obtaining the services of a suitably qualified dentist. There is no doubt that a dental department would be a great asset to the service both in preserving health and saving time lost from work.

SPECIAL INVESTIGATIONS

Dermatitis—A special skin clinic is held weekly and efforts are made to keep a check on all skin diseases occurring in member firms. It has been found that prompt and careful supervision can do much to diminish the incidence of dermatitis and the length of time lost from work. Every effort is made to keep men suffering from dermatitis at work, if necessary on an alternative job. Experience shows clearly that only thus can they be given regular dressings and close supervision which is essential to healing. At work, they are spared the idleness and anxiety in which to set up the vicious circle of itching and scratching. The longer they are off work the less inclined men are to return, and the more easily do they go off again when there is a slight exacerbation or recurrence.

It is unfortunately impossible to tell how many people with skin trouble go directly to their own doctor, and the labor turnover in firms is often high, so that figures are partial and unreliable. The matter is of importance because dermatitis is the greatest cause of industrial compensation in the country. From experience at Slough it is felt that industrial skin clinics where a man can receive treatment and supervision while at work would go far to solving the problem. Since very many who might claim compensation do not do so, the cost is even greater than appears.

Juveniles—A particular study of juveniles is being made, and since the start the Appointed Factory Doctor has been associated with the Service. Special records are kept of all juveniles, from the time they start work at the age of 15 until they are 18. The Appointed Factory Doctor is by law required to examine all youngsters entering industry, once a year thereafter if they remain in the same employment, and every time they change employment.

Unfortunately, the law does not cover office or shop workers, and many small employers ignore or are ignorant of the obligation to notify the Appointed Factory Doctor. The post of A.F.D. was recently taken over by the writer, and the opportunity to study the health and welfare of juveniles was thus greatly increased. It is felt that the physical condition of the youngsters is, on the whole, good, and therefore of less importance than a study of their social background and mental attitude toward work and life. An unreliable drifter can be more trouble than a sick man. The examination gives an opportunity to help the youngsters in their difficult adjustment to a new environment, and assists in promoting good human relations. It is hoped to link up closely with the work of the school medical service, teachers, youth employment service and probation officers.

Academic association—Much work lies ahead, but a Field Unit is being developed which will offer facilities for teaching medical students or potential industrial medical officers and nurses, as well as research into problems affecting mental and physical well-being in industry. The field offers great scope for teaching and research in social medicine. In order to use this field unit to best advantage it must be associated with an academic center, an association that ought to be of mutual advantage and stimulus. It is planned to associate the Service particularly with the London School of Hygiene and Tropical Medicine, both for teaching and research purposes, probably through a part-time lecturer who will be a member of the service and assist in postgraduate training of industrial medical officers. One of the main links will be through the joint engagement of the industrial health engineer mentoined earlier. With the academic stimulus and laboratory facilities of the London School of Hygiene, combined with the field organization and good relations with firms at Slough, the way should be open for much valuable work into every aspect of health in industry. It is hoped perhaps to set a pattern for other similar teams, linked to a university in each of the regions under the National Health Service.

In general principles and pattern of work, it is hoped that the service may in some small measure contribute to develop the pattern of medicine in the future when salvage and cure of disease will yield place to prevention of sickness and promotion of good health. The plan is essentially long-term, as conceptions of health are changing and a new sense of social responsibility is developing. It is against this background that the service is taking shape.

NOTE: In 1948 the author was in America on a Rockefeller Fellowship in Preventive Medicine, and it would be impossible to conclude without taking this opportunity of paying tribute to the wealth of ideas and mental stimulus received in America through the kindness and generosity of so many people. In the account of the development of the service that has been given it is hoped that in some manner at least a reflection of this stimulus may be seen.

My thanks are due also to Dr. A. Austin Eagger, Director of scheme for his unbounded enthusiasm and help, and for the opportunity of working with him at Slough.

The 1948 Experience of the Health Insurance Plan of Greater New York With the Utilization of Physician Services by the Enrollees in Each Age-Sex Group

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ALL plans for the provision of medical care consider age and sex of enrollees as factors of primary actuarial significance. In some plans infants and persons over 65 years of age are excluded. In others, the premium rate for an employee group is set in accordance with the proportion of women of childbearing age who are members of it. Still others have special charges for spouses and for children, or fees for services peculiar to an age or sex group, notably obstetrical services. In contrast to these policies, HIP has accepted employee groups composed of persons of both sexes and of all adult ages together with their spouses and children under 18, has placed very few barriers on utilization by anyone, and in no case are these barriers directly related to age and sex. Therefore, its experience should begin to reveal true variations in medical need as it arises and is met for each of the several age and sex groups in an urban population. This experience reveals not only the peaks but also the valleys which are sometimes lost sight of in the apprehension caused by the peaks.

In examining the 1948 experience of HIP, the answers to three questions have been sought:

1. What has been the utilization rate for each age and sex group in the total HIP enrollment?
2. How has the HIP's general utilization rate been affected by the peculiar age-sex composition of its total body of enrollees and by the relatively small number of deliveries reported?
3. What does this experience indicate as the rate for a population constituted as is that of New York City and characterized by its current birth rate?

The answers to these questions are set forth in the sections below. But before the materials bearing on these questions are presented, a brief word of explanation on the data utilized is in order.

In 1948 the physicians, other than the radiologists and the pathologists, in twenty-four HIP medical groups sent in individual reports on 500,364 medical services performed for HIP enrollees. In addition, 445 services were reported by physicians in two medical groups which began service very late in 1948 and have, therefore, not been included in this analysis; 1,209 services were reported as HIP services but the patients could not be identified as HIP enrollees.

For reporting to HIP, a physician's service is defined as a visit of the patient to the doctor's office or a visit of the doctor to the patient at home or in the hospital. In a few instances HIP physicians have been called to see the patient at his workplace or elsewhere.

As above mentioned, the physician services here analyzed do not include

those of radiologists and pathologists. An allowance of 10 per cent would be quite sufficient, even in teaching institutions, to give a full rate for all physicians' services.

Only a little over half of the enrollees active in 1948 were carried over from the year 1947, so that some 43 per cent of them were new to HIP in 1948. Moreover, some of those enrolled during 1948 had less than a year under coverage, with the consequent concentration of those types of demand that appear in the early months of enrollment. The services of ophthalmologists, for instance, are apt to be in special demand at that time.

The HIP enrollment was composed of 58,204 males and 50,977 females on January 31, 1948, and 65,025 males and 56,768 females on July 31, 1948. Thus the experience is not quite evenly divided between the sexes, but is sufficient in each case to give a substantial statistical base.

With regard to the limitations on the data, it is sufficient to say that less than 1 per cent of the services rendered were not reported by physicians. Of those otherwise properly reported, 1.2 per cent did not have age-sex data. These are in large part persons who declined to give date of birth on their enrollment cards, and instead reported themselves as "over 21."

Utilization rates for age-sex groups

The 1948 utilization experience with HIP enrollees in the several age and sex groups is set forth in text Table 1 and graphically portrayed in Chart 1. This experience is expressed in terms of physician services per person per year. The actual figures on population at risk and services rendered are given in Table 2.

Several circumstances operate to make it necessary to scrutinize these figures with care. Because the number of males and females at risk differ widely in some

TABLE 1

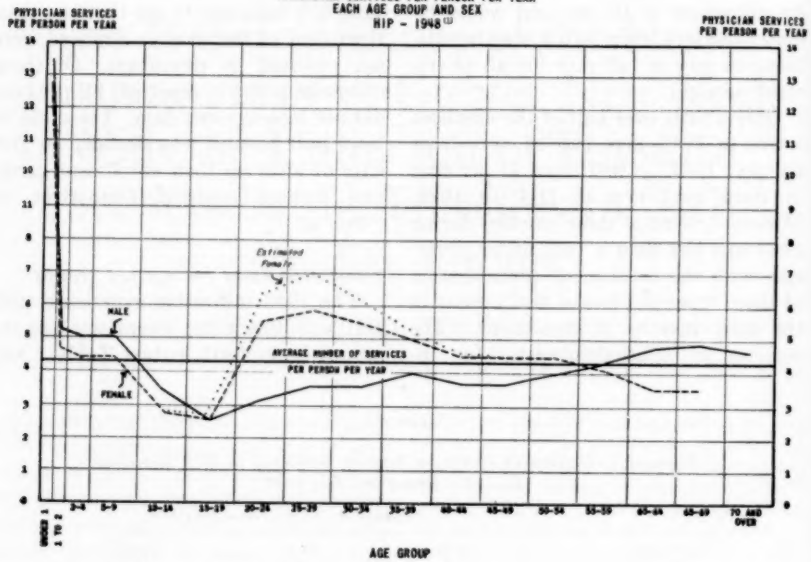
Rates of Utilization of Physician Services Rendered to HIP Enrollees, Each Age Group and Sex, 1948

Age Group	Physician Services per Person per Year[1]		
	Total	Male	Female
All ages	4.3	4.1	4.5
Under 1 year	13.1	13.4	12.8
1 to 2	4.9	5.2	4.7
2–4	4.7	5.0	4.4
5–9	4.7	5.0	4.4
10–14	3.1	3.5	2.8
15–19	2.6	2.6	2.6
20–24	4.7	3.1	5.5
25–29	5.0	3.6	5.9
30–34	4.6	3.6	5.5
35–39	4.6	4.0	5.0
40–44	4.1	3.7	4.5
45–49	4.0	3.7	4.5
50–54	4.2	4.0	4.5
55–59	4.2	4.3	4.1
60–64	4.4	4.8	3.6
65–69	4.6	4.9	3.6
70 and over	4.8	4.7	[2]

[1] Exclusive of services of radiologists and pathologists.
[2] Rate not calculated since enrollee-year base is less than 100.

CHART 1

PHYSICIAN SERVICES PER PERSON PER YEAR
EACH AGE GROUP AND SEX
HIP - 1948 (1)



(1) Based on Table 1 and last column Table 4.

TABLE 2

Enrollee Years, Physician Services Rendered to HIP Enrollees, Each Age Group and Sex, 1948

Age Group	Enrollee Years			Physician Services Rendered to HIP Enrollees [1]		
	Total	Male	Female	Total	Male	Female
All ages	116,940	62,469	54,471	500,364	253,611	246,753
Under 1 year	1,001	526	475	13,153	7,064	6,089
1 to 2	1,557	791	766	7,702	4,103	3,599
2- 4	4,899	2,519	2,380	22,952	12,559	10,393
5- 9	8,611	4,400	4,211	40,855	22,212	18,643
10-14	7,915	4,031	3,884	24,778	13,962	10,816
15-19	5,339	2,697	2,642	13,928	7,133	6,795
20-24	2,214	768	1,446	10,364	2,396	7,968
25-29	5,071	2,060	3,011	25,180	7,390	17,790
30-34	8,881	4,130	4,751	40,955	14,885	26,070
35-39	14,002	6,432	7,570	63,740	25,650	38,090
40-44	16,474	8,931	7,543	67,145	33,142	34,003
45-49	12,880	7,365	5,515	52,160	27,404	24,756
50-54	11,025	6,687	4,338	46,263	26,851	19,412
55-59	7,798	5,019	2,779	32,882	21,498	11,384
60-64	4,484	3,101	1,383	19,918	14,939	4,979
65-69	2,048	1,551	497	9,319	7,551	1,768
70 and over	619	535	84	2,949	2,491	458
Age not available	2,122	926	1,196	6,121	2,381	3,740

[1] Excludes services of radiologists and pathologists.

of the age groups, the rate for the total persons in those age groups reflects the special conditions, if any, attaching to the sex of the enrollees preponderant in that age bracket. Therefore, these figures are not as useful as those for each sex within that age range. The rates for males gradually decline from the high

utilization for infants to the low at age 15–19, inclusive, which has a rate less than two-thirds of that for all males. After adolescence the rate gradually rises and levels off at about age 60 when it is approximately one-sixth higher than the general rate for males. The range in annual rates for males over the age of 1 year extends from 2.6 physician services, for adolescents, to 5.2 for babies aged 1 to 2 years, exclusive of radiologists' and pathologists' services.

The extent to which services provided to persons under Workmen's Compensation and Veterans Administration programs, which parallel but are not reported for HIP members receiving them, affect the HIP rates especially for males, is not now known. It is probable that there is some effect and that the HIP male rate is at least slightly lowered thereby. This would not, however, affect the rates for persons under working age, and would probably not affect the rate for persons advanced in years.

In the case of females, the contour shows a sharp decline in the rate from infancy to age 15–19, inclusive, then a rapid rise through the early childbearing period, followed by a gradual decline to a rate for women in the mid-50's and 60's which is less than the rate for all females and considerably less than that for men of corresponding ages. The rates here reported for the women in the childbearing period are not as high as they would have been, had the number of births reported conformed to the current urban birth rate. An estimate of the services implied by that birth rate appears in Table 4 and as the lightly dotted line on the chart.

In these rates one sees the result of the combination of services in the care of illness and in preventive medicine. For instance, the HIP program calls for monthly medical examinations of babies throughout their first year even though they are in good health. Therefore, a cohort of infants who lived through their first year, would be expected to have a utilization rate of 12 as a minimum, with all services occasioned by illness increasing that rate. The utilization rate of 13.1 found here would indicate that the infant population was receiving the care contemplated by the Plan.

Health examinations and immunizing procedures are available to everyone enrolled in the Plan. To the extent that these are differently utilized by people in the several age-sex groups, the specific age-sex rates are affected.

While the services here reported for women of childbearing age are considerably more than that reported for males of corresponding ages, and might therefore be expected to make the total rate for females very much higher than that for males, this excess is offset by the smaller amounts of service received in childhood by females who are not subject to accidents to the same extent as boys, and by females in the ages between 55 and 70. (The number of females of 70 and over was so small as to render the experience with them of questionable reliability as a basis for a rate.) An increased use of the Plan for obstetrical service would raise the total rate for females. How far it would exceed a rate for males that included all services (workmen's compensation, etc.) will not be known until all services are brought under review.

The number of services for persons aged 60 and over, coming from an estimated population at risk of 5,187 males and 1,964 females does not corroborate the belief that the aged present excessive demands for medical care, though in the case of males the rates are somewhat higher than their general rate and, of course, considerably higher than the rates for some of the earlier age groups.

After an allowance of 10 per cent for the services of radiologists and pathologists, the highest utilization rate among the age-sex groups other than infants under 1 year, was well under 7 physician

services per person per year, the estimated overall rate for total enrollment on the basis of which HIP launched its program. However, as will be shown later, a full use of obstetrical service would have modified this situation appreciably for women aged 20 to 29.

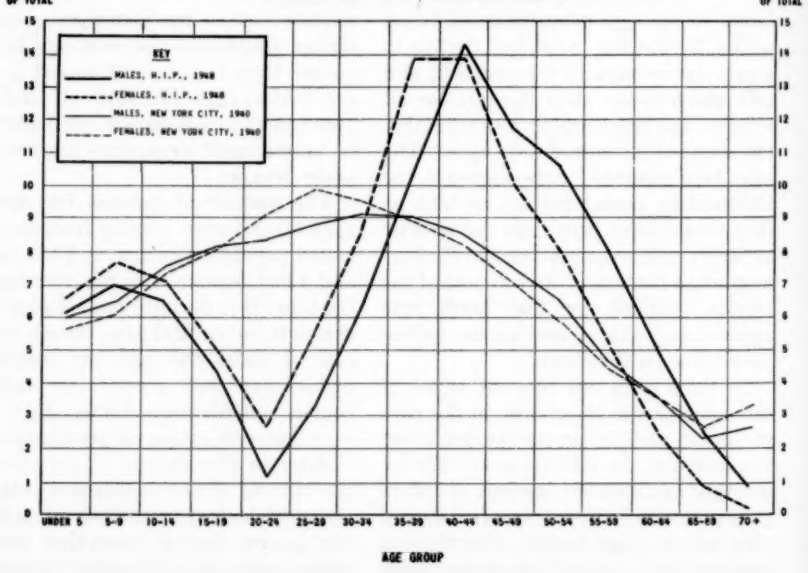
In examining these figures, it is well to remember that they reflect the final result not only of preventive and remedial services, but also of a medley of other factors. While some of these arise from as yet unmodifiable conditions such as unpreventable disease and from special efforts to bring enrollees under medical observation, others are of a different character, such as habits in the use of medical care and the policies of medical groups in the rendering of it. We can claim no scientific quality for these findings other than that of an accurate statement of medical services rendered early in their period of enrollment to a large number of persons in a medically sophisticated, relatively favorable urban environment, to whom by reason of prepayment, comprehensive medical care was made available without deterrence.

Age-sex composition of HIP enrollment and volume of deliveries as factors affecting the HIP general utilization rate

The enrollment in HIP has been eccentric as regards age and sex right from the beginning of its operation in March, 1947. These peculiarities, as exhibited in 1948, are graphically portrayed in Chart 2 in comparison with the 1940 population of New York City. Because of the changes in enrollment that are constantly occurring, the distribution here shown is in terms of "enrollee years," that is, an estimate of the number of persons in a given age group who were enrolled for a period of 1 year. These estimates were calculated on the basis of the age-sex distributions made on January 31 and July 31, 1948. During the latter part of the year there was

CHART 2

PER CENT DISTRIBUTION EACH AGE GROUP AND SEX
H.I.P. ENROLLEE YEARS, 1948, AND NEW YORK CITY POPULATION, 1940



no significant change in the composition of enrollment found earlier in the year. With this picture of the age-sex distribution of the enrollees in mind, we come to the second question, which concerns itself with the characteristic quality of the utilization rate for the total body of HIP enrollees.

Granted that differences in the age-sex composition of the population at risk could make some difference in the utilization rate, and recognizing that the HIP population has some marked deviations from a normally constituted population, the answer to this question lies in a "correction" of the HIP rate to an age-sex distribution for a more normally constituted population. For this purpose, the 1940 New York City population was used. Such correction produces a general rate that is almost identical with, though slightly smaller than, the present one. This is because some of the several deviations in age-sex composition of the HIP enrollment from a more normally constituted population tend to compensate for one another, and others occur in age-sex groups having rates which approximate the general rate so that their relative size is not of very much importance. The 1948 enrollment was markedly deficient in young women of childbearing age (high utilization rate), in young males (low rate), and older women (low rate). It was somewhat excessive in infants (very high rate), in children aged 2–9 inclusive (medium rate), and conspicuously so for men in their 40's (low rate), in their 50's (medium rate), and 60's (high rate), and for women aged 35–54 inclusive (medium rate). Among these deficiencies and excesses, the extreme paucity of young males in the HIP population, with their very low utilization rate, tends to yield a general rate actually a little higher than it would have been for a population constituted as was that of New York City in 1940.

The final question with which it is necessary to come to grips relates to the characteristic quality of the experience in the demand for obstetrical service from HIP enrollees. Were married women of childbearing age enrolled in the same proportion as that found in the general population? How did the number of births reported for HIP enrollees compare with the number to be expected from a female population of corresponding ages?

In the 1940 female population of New York City, married women aged 15–49, inclusive, accounted for 35.9 per cent. In the HIP female population, 35.7 per cent on January 31, 1948, and 35.4 per cent on July 31, 1948, consisted of women enrolled under the joint HIP-AHS contracts carrying maternity benefits in connection with coverages of two or more persons. If the family group consists only of husband and wife, they have this benefit in hospital care only by reason of deliberate choice carrying a higher premium. Families consisting of a couple with one or more children automatically have this benefit. To the extent that there are women over the age of 49 with a child still under 18, the number of married women of childbearing age is overestimated. But since this means that the child was born to a woman past the age of 32 and in the calendar years immediately after 1931, when the birth rate in New York City was very low, we doubt that the number of such instances is sufficient to destroy the essential similarity of the proportion of married women of childbearing age in the HIP population and that of the 1940 New York City population.

A much more serious question is suggested by the data on births to HIP female enrollees. A total of 769 confinements was reported in 1948, arising in connection with 116,940 enrollee years. Obviously this is a very low birth rate, even when allowance is made for the deficit of young women and for a considerable excess of males over fe-

TABLE 3

Normally Expected Births in 1948 HIP Female Population Aged 15–49, Inclusive

Age Group	*Female Enrollee Years*	*Birth Rate per 1,000 Women* [1]	*Normally Expected Births*
Total	xxxx	xxxx	1,532
15–19	2,642	26.2	69
20–24	1,446	125.1	181
25–29	3,011	148.9	448
30–34	4,751	96.2	457
35–39	7,570	41.0	310
40–44	7,543	8.5	64
45–49	5,515	0.5	3

[1] Rates for United States, 1947, adjusted for differences found in 1940 between those for the total United States and those for cities of 100,000 population or more in New York State.

males in the population at risk. The utilization materials give no clues to indicate whether there was actually a drastic limitation of births in the HIP population or whether, as seems likely, the newly enrolled insured women were still under the care of obstetricians chosen prior to enrollment. While an absolute correction cannot be made for this condition, some light is thrown on presumptive demand if we assume normal birth rates for the women in the several age groups and thereby estimate the expected number of births in a population of this size and composition. These are shown in Table 3.

Against the estimate of 1,532 births, only 769 confinements were reported, leaving a deficit of 763 deliveries. If for each delivery there was an average of 7 prenatal services and 8 services at delivery and in the postpartum period, we arrive at an estimate of 11,445 services to be added. The addition of these would raise the total number of physician services for the entire HIP population by 2.3 per cent.

Finally, if we appropriately distribute

TABLE 4

Utilization Rates, Each Age Group and Sex, Adjusted for Normal Birth Rate and Normally Constituted Population, HIP—1948 [1]

Age Group	*Physician Services per Person per Year*		
	Total	*Male*	*Female*
All ages [1]	4.4	3.9	4.9
Under 1 year	13.1	13.4	12.8
1 to 2	4.9	5.2	4.7
2– 4	4.7	5.0	4.4
5– 9	4.7	5.0	4.4
10–14	3.1	3.5	2.8
15–19	2.7	2.6	2.8
20–24	5.3	3.1	6.4
25–29	5.6	3.6	7.0
30–34	5.0	3.6	6.2
35–39	4.7	4.0	5.3
40–44	4.1	3.7	4.6
45–49	4.1	3.7	4.5
50–54	4.2	4.0	4.5
55–59	4.2	4.3	4.1
60–64	4.4	4.8	3.6
65–69	4.6	4.9	3.6
70 and over	4.8	4.7	[2]

[1] Based on HIP experience in 1948; for adjustment for normal birth rate, see text and Table 3 footnote; 1940 New York City population taken as normally constituted population in determining utilization rates for "all ages." All rates are exclusive of services of radiologists and pathologists.

[2] Rate not calculated since enrollee-year base is less than 100.

these additional 11,445 services over the female age groups, calculate a new utilization rate which includes these additional services for each age group of females in the childbearing period, and then correct the general utilization rate, we see what it would have been for a population of 116,940 constituted as was that of New York City in 1940 and having a 1947 urban birth rate. We come to a total figure of 4.4 services per person per year without those of radiologists and pathologists, or slightly less than five services when these are included. Table 4 contains the rates for age-sex groups which underlie this estimated general rate. In Chart 1 these modifications are shown as the estimated female rates.

The findings set forth above carry considerable reassurance that, as the HIP population approximates one more normally constituted as to age and sex, and receiving the obstetrical services implied by the current birth rate, its general utilization rate will not be materially changed by reason of those shifts. However, it must also be recognized that, though the general rate may not be changed materially, the demands for the services of physicians whose specialties are related to the age and sex of patients, may be considerably modified.

The aged as a factor in medical care

With so much public discussion directed toward the increasing proportion of aged persons in the population, their need for more adequate medical care, and the emerging medical specialty of geriatrics, the impression is sometimes given that a very considerable fraction of the medical services rendered in the community will soon be going to persons in the older ages. A recent article * points to the special needs and rising proportion of older persons as a factor in the shortage of physicians supposed to exist now and predicted for the future. It sounds ominous that "Americans over 64 suffer, on the average, four times as many days of disability per year as the entire population. What's more, we will have within a generation, about six times as many citizens over 64 as we had in 1900."

As for the growing proportion of the aged, it is instructive to note that the United States Census Bureau reports that in 1900, persons of 65 years of age and over constituted 4.0 per cent of the population of the United States. By 1940 this per cent had risen to 6.5. The Bureau's forecasts based upon assumptions of "medium fertility, medium mortality, and no immigrations," are 8.4 per cent in 1955, 10.9 in 1975, and 13.2 by the year 2000.

The belief that this minority of persons will create a relatively large demand for physicians' services *per se*, is highly questionable. Let us look more closely at their "extra" need for medical care. Days of disability—presumably registered in an employed population—by persons in the various age brackets are cited as evidence. We question this as a reliable measure of the relative need for the direct services of physicians. While it is obvious that the older people have more chronic illnesses and may be kept home from work by them more often and for longer periods than are younger persons, it does not follow that need for the services of physicians is directly reflected by the amount of absence from work. It has long been recognized that chronically ill, aged people fall into three categories: (1) those in need of active medical care to establish their diagnoses and plan their treatment and way of living, (2) those needing skilled nursing care only, and (3) those whose need is primarily for personal services of a custodial character. Many older working persons with chronic conditions need only periodic check-ups to keep

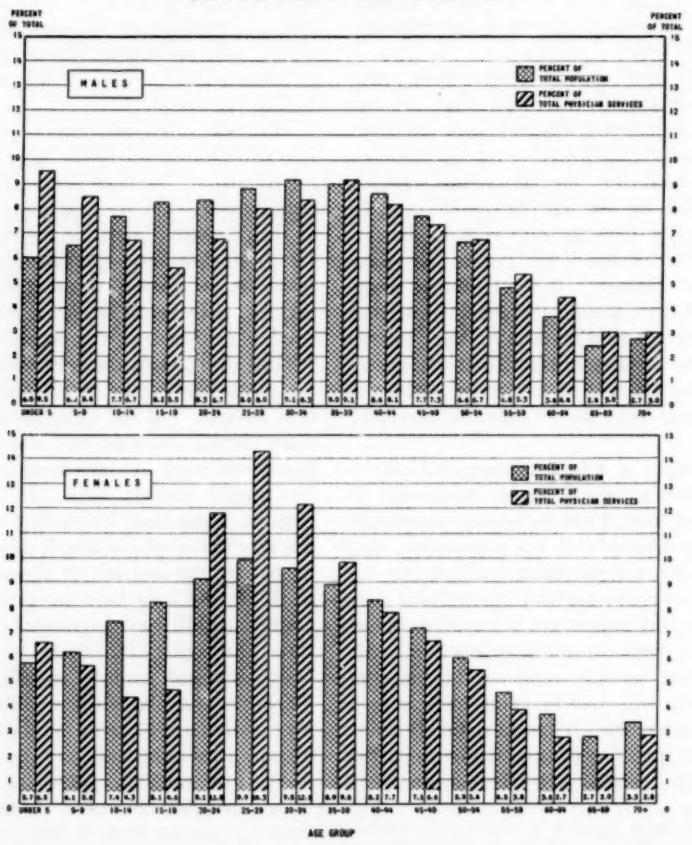
* See Harris, Seymour E. "Prescription To Meet the Doctor Shortage." *The New York Times Magazine*, May 14, 1950.

their disease under control, combined with a regime which protects them from over-fatigue and from special hazards that may exacerbate their condition—weather, worry, wrong diet, etc. These conditions may keep them at home more, but should not take them more frequently to the doctor, especially if their physicians have already advised them how to live wisely within their limitations, if technician service is more accessible, and if their family life conduces to health. When they cannot follow the prescribed regime, they need the help of a resourceful social worker or of a first rate nurse more than they need a physician—a truth pointed out by Dr. Richard Cabot some forty years ago for all patients who are stymied in following "the doctor's orders."

This is not to say, however, that the needs of such aged as we have are to be ignored or neglected, that the science of geriatrics is not of great importance, and that much does not remain to be done to improve medical care for the aged, to develop efficient means by which their chronic conditions can be controlled, to

CHART 3

THEORETICAL DISTRIBUTION OF POPULATION AND PHYSICIAN SERVICES IN EACH AGE GROUP[1]
(BASED ON NEW YORK CITY POPULATION IN 1940 AND NIP EXPERIENCE IN 1948)



(1) See explanation in text.

rehabilitate many who have been relegated to a life of idleness, and to make their advance into the later years more productive, comfortable, and pleasant. But, as in the case of the needs of younger people, it is not the sheer bulk of physician personnel but the quality of the medical care and the social imagination and inventiveness that really count. The best medical care is that which works to reach people in a preventive fashion, seeks to control sickness, and to minimize disability, and makes generous use of trained auxiliary personnel on a team work basis, thereby actually cutting down the need for the direct expenditure of its own energies and resources. It is this conception of medical care which guides its development under the auspices of the HIP.

In Chart 3 the HIP experience has been used to show the relative amounts of total physician services required for persons at the various age levels in a more normally constituted population with a 1947 birth rate. From this it becomes clear that the demand for the great bulk of medical services comes, and will continue for sometime to come, from persons under 55. While the rates of utilization may be relatively high for persons over that age, especially men, their proportion in the population is such as to make the volume of their demand comparatively modest and to make its weight in a total utilization of medical services fairly light.

SUMMARY

In 1948 physicians, other than radiologists and pathologists, of the Health Insurance Plan of Greater New York which offers a comprehensive program of medical care, rendered approximately half a million services to persons who represented a total of 117,000 enrollee years. Allowing 10 per cent for the required services in radiology and pathology resulted in a general utilization rate for the HIP enrollment of 4.7 physician services per person per year.

Because the enrollment in HIP is eccentric in age-sex composition, a question arose as to the effect of that eccentricity upon the general utilization rate. It was found to have had no important effect because the peculiarities tended to compensate for each other.

In 1948, the births attended by HIP physicians were considerably below the expectation for the number of women of childbearing age in the covered population. Allowance for the estimated additional obstetrical service that could be expected had the birth rate been "normal," increased the total services by 2.3 per cent. This revision did not raise the general utilization rate appreciably.

Among the various age-sex groups the heavy users proved to be infants, women of childbearing age, and to a considerably lesser degree, elderly males. The light users were adolescents of both sexes, young and middle-aged men, and elderly women.

Physician services required for aged persons constitute so minor a part of the estimated total required by a normally constituted population, that a considerable increase in the proportion of the aged in that population would not result in their preëmption of a large fraction of the physician services needed by, and rendered to, the total community.

Children's Dental Health Week in New York City

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MANY agencies in New York City are interested in dental health education as an incidental part of their programs of health education, but only two, the Bureau of Dentistry of the Department of Health and the Oral Hygiene Committee of Greater New York, are concerned with *dental* health education as a primary function.

A very close working relationship exists between the two agencies. The Department of Health utilizes every approach to help people understand the facts about dental health but its most intensive efforts are directed toward coordinating dental health teaching with dental care practice in the public and parochial schools. For this purpose a substantial portion of the time of our dental hygienists is devoted to dental health education. The Oral Hygiene Committee of Greater New York is also set up for the purpose of "Prevention through Education." It is made up of volunteer dentists appointed by the three local dental societies and representatives of affiliated organizations with allied interests. In the thirty years of its existence, the Oral Hygiene Committee has produced over one thousand weekly radio broadcasts, conducted a speaker's bureau, published timely literature, provided visual aids on dental subjects, and conducted various publicity campaigns. Despite an extremely limited budget, and interference with continuity due to the fact that all of the work is done by volunteers, this group has accomplished noteworthy results in each of its fields of endeavor.

When the American Dental Association designated February 6, 1950, as National Children's Dental Health Day, it requested that the various branch dental societies focus local attention upon the event. The Oral Hygiene Committee was selected as the coördinating and directing agency for the New York City area. The local dental societies allocated $6,500; office space and the use of equipment were contributed by one of the commercial firms dealing in dentist supplies, and planning was begun in March, 1949. With the exception of one full-time secretary and some part-time clerical and part-time publicity aid, all workers were volunteers.

It was apparent at the outset that a one day program would be of little consequence and that the amount of effort required would be almost as great for one day as for a week. Accordingly, all planning was directed toward a Children's Dental Health *Week* from February 6 to 11. The first six months of preparatory work led to a series of blind alleys, primarily due to limitations placed upon the committee by the dental societies, inertia of coöperating agencies, and, to some extent, administrative inexperience. Many of the retail drug chains, drug, tooth paste, and dental supply manufacturers were asked to cooperate, but although all applauded the purpose, very little financial or constructive aid was forthcoming. The 8,000

dentists in the New York area, except for their official cognizance of the event, were not especially interested in the early stages of planning. The dental journals published quite a number of articles and announcements, but it was not until the newspaper and radio publicity was at its peak, that widespread professional interest was aroused. Affiliated agencies, such as the Health Council, and the New York Tuberculosis and Health Associations gave as much assistance as they could, and many other agencies were of direct assistance.

THE SCHOOL PROGRAM

As consultants and affiliates of the Oral Hygiene Committee, the Bureau of Dentistry of the Department of Health was asked to emphasize dental health education in the public schools during the week of February 6. The Superintendent of Schools issued a special circular letter to all school principals requesting that special lessons relating to dental history, anesthesia, biology, x-ray and other related subjects be planned for the week of February 6. The Bureau of Dentistry instructed its 111 dental hygienists to plan special auditorium exercises, and to make greater efforts to achieve 100 per cent dental correction in the various classes. Most of these school activities were extensions of the dental health education program conducted throughout the year, but the widespread publicity through newspapers, radio, and television aroused a greater interest than usual among principals, teachers, and dental hygienists, as well as among the pupils themselves.

During the week, countless special lessons were presented in classrooms of public and parochial schools. Five hundred and eighty-two special auditorium exercises were reported with a variety of dental programs, from presentation of 100 per cent dental correction banners, to playlets, speakers, and movies. An original operetta written by a teacher and a dental hygienist was presented by the pupils of P.S. 181, Brooklyn.

Special mid-year emphasis was placed upon the return of "dentist completion notes," and by February 6, 460 classes reported 100 per cent dental correction. By June 1, there were 918 classes and three entire schools that had attained 100 per cent dental correction. Although the added impetus of Dental Health Week may have been responsible for some increase in the number of classes which achieved 100 per cent dental correction, for the most part the increased number can be attributed to normal growth of the dental correction program continually carried on in the public and parochial schools. Table 1 shows how these classes have increased since 1946. These data do not represent the greater number of classes which achieved any degree less than 100 per cent correction. Over 600,000 children obtained dental care in 1948–1949 and 65.5 per cent of all elementary school children received dental care in the school year 1949–1950.

TABLE 1

Number of elementary school classes which achieved 100 per cent dental correction in New York City by school year

School Year	*Number of Classes*
1946–1947	379
1947–1948	640
1948–1949	874
1949–1950	918

SPEAKER'S BUREAU

Closely associated with the school activities is the Speaker's Bureau, another function of the Oral Hygiene Committee. This subcommittee trains dentists to speak on dental subjects and maintains a service which sends speakers to schools and organizations that request them. During Children's Dental Health Week, 172 speakers delivered 296 talks at 209 schools and 25 films on dental subjects received 300 showings.

THE DENTAL BITE-WING X-RAY PROJECT

At the suggestion of the Women's Dental Society, the Oral Hygiene Committee explored the possibility of using department stores for taking free dental x-rays for children. The Commissioner of Health was willing to sponsor the project and the Bureau of Dentistry was directed to coöperate.

The object of this demonstration was to bring to public attention the importance of dental care for children by accenting the fact that the x-ray is a means of detecting early dental caries. Two bite-wing x-rays were taken for any child accompanied by a parent. These were developed, mounted, and mailed to the parent without charge. A post card was enclosed which directed the parent to take the x-rays to the family dentist for interpretation. The dentist was asked to examine the child without charge and to return the post card to the Oral Hygiene Committee.

The Bureau of Dentistry played a major role in this project, from planning and training to processing and delivery of the x-ray films, but all activities were directed and coördinated through the Oral Hygiene Committee. Exact instructions were drawn up regarding space, washing facilities, delivery, storage, environment, electric outlets, traffic and supplies. One of the manufacturers of dental equipment accepted the responsibility of finding and loaning the x-ray machines and dental chairs without charge. This was of tremendous value since these machines are expensive and fragile, and only certain special types can be used. The cost of moving, supplies, and printing was paid by the Oral Hygiene Committee.

The response by department stores was immediate and a bit overwhelming. It was impossible to obtain enough x-ray equipment for so many applicants, nor was the Oral Hygiene Committee budget large enough to cope with the expenditures. As a compromise, nine stores were selected in various parts of the city for the installation of x-ray units. It was gratifying to observe the public spirited attitude and the excellent coöperation of each of the participating department stores. Coöperation was but faintly motivated by commercialism and, for the most part, was inspired by a desire to be of public service.

In all, 8,304 children had two x-rays taken each, a total of 16,608 films. Upon development it was found that 1,117 sets of x-rays were defective for one reason or another. Letters were sent to the parents of these children inviting them to have the x-rays retaken at any one of 18 Department of Health dental clinics. A total of 1,400 post cards were returned by dentists signifying that children brought the x-rays to them and had been examined. While the number of post cards returned is only 16 per cent of the total x-rayed, it represents an encouraging minimal response. In any case, the x-ray demonstration had served its purpose in focusing attention upon the idea that dentistry for children is important.

It is of interest to note that of the 14,274 readable bite-wing x-rays, representing 7,187 children, 4,212 or 58 per cent showed one or more teeth with obvious dental caries. Since early caries on the occlusal surfaces of teeth and defective fillings cannot be detected from such a reading, it is clear that a complete dental examination would have revealed a far greater percentage in need of dental attention.

NEWSPAPERS

The indirect consequences of locating the x-ray project in department stores were probably of greater ultimate value than the x-ray project itself. The fact that these stores were large advertisers in the daily newspapers acted as an "Open Sesame" to any press releases on the subject. Newspaper editors appreciate an opportunity to publicize the

human interest and public service activities of a good customer, and this was doubtless responsible for a large part of the newspaper space given to this demonstration. Of equal or greater importance was the snowballing nature of news itself. When enough newspaper space is devoted to a subject, there is a tendency for other papers, as well as radio and television, to interest themselves. Aside from any other value that may have been derived from the x-ray project, it was responsible for a large share of the favorable publicity.

During the week and in the two weeks preceding, 16 daily newspapers published 45 columns on subjects specifically related to dental health activities in New York City. Sixty weekly papers and magazines, some with national circulation, published 27 columns. About half of the items were accompanied by photographs. It is estimated that the total area of newsprint was the equivalent of between 8 and 9 full-size newspaper pages. The combined daily circulation of the newspapers was over 6 million while the Saturday and Sunday circulation was close to 10 million.

RADIO

In planning for radio publicity a list of thirty appropriate spot announcements was prepared and submitted to the various radio stations as suggested inserts. The smaller stations were quick to accept these suggestions but progress was very slow in enlisting the coöperation of the major networks, until it became apparent that the emphasis on the dental health was supported by newspaper publicity. Even then, the Bureau of Dentistry of the Department of Health was frequently consulted for certification of the facts.

In the end, every radio station in the New York area coöperated to such an extent that to list the programs would include almost every major radio program on the national networks. No count could be made of the announcements in the weeks preceding, but during the week of February 6, 150 separate announcements or programs were noted.

Several fifteen minute talks were given by dentists, but these were of considerably less significance than were the discussions by Dorothy and Dick, or the McCanns, or the Fitzgeralds. A few of the more popular programs on which mention was made of dental health were, Mr. District Attorney, Burns and Allen, Arthur Godfrey, Jack Benny, Phil Cook, and Martha Deane.

TELEVISION

Television is a potent force for education, especially in the New York area with its seven channels, of which several are a source for national programs. However, except for a demonstration of topical application of sodium fluoride by the Department of Health in 1948, and a few interview appearances by members of the dental profession, experience with television technique for dental health education was extremely limited.

Ordinarily it is no easy matter to influence television operators to accept straight health information unless it is dramatized, but due to the large amount of advance newspaper and radio publicity the subject of Children's Dental Health Week became newsworthy and aroused the interest of several television broadcasters. Inquiries were received by the Department of Health and the Dental Information Bureau during the week preceding February 6, and with few exceptions these inquiries were relayed to the Bureau of Dentistry for action.

An interview on the Kathie Norris show required little special preparation. The Camel Caravan News requested an opportunity to take motion pictures which would be representative of dentistry for children. The same kind of

request came from Allan Funt's Candid Camera. Each of these utilized Department of Health dental clinics and each exposed several hundred feet of film.

The Camel Caravan showed very little of the film but John Cameron Swayze commented on the Children's Dental Health Week. The filming of the Candid Camera presented a serious problem since its technique is to exploit peculiarities of human behavior for the amusement of the television audience. As it turned out, there was no need for concern, for the program was planned to convey a dental lesson and there was nothing objectionable presented. Other television programs which made mention of dental health were, Howdy Doody, Break the Bank, Lucky Pup, Small Fry Club, Dennis James, Okay Mother, Old Nick's Music Hall, Mr. Magic, Quiz Kids, and almost all of the news commentators.

The greatest amount of planning and preparation was required by the three day series given by the Judy Splinters Show. This is a network program for young children (NBC) at 5:15 P.M., whose principal character is a ventriloquist puppet operated by Shirley Dinsdale. On Monday, February 6, the program consisted of a discussion about Children's Dental Health Week, some songs about health habits, and plans were made to visit a department store on the following day to have dental bite-wing x-rays taken. The visit to the department store publicized the bite-wing x-ray project and provided an opportunity to explain what x-rays were. This in turn led the way to a visit to the dentist on Wednesday when Judy sat in the dentist's chair and received tooth-brushing instruction and sang more songs.

Experience with this series demonstrated that television presentation is not only more difficult than radio, but that it requires far more attention to details of preparation, that rehearsal is of very limited value, and that a high degree of adaptability must be expected from participants. Notwithstanding various last minute complications, and even though untrained Department of Health staff was used, the programs went off without a hitch.

TELEVISION RESPONSE

The response to the Judy Splinters program came from as far west as Chicago in the form of fan letters and requests for a special dental booklet offered by the Department of Health. A typical example of the letters received is the following:

Dear Judy,

I like your show very much. I seen your show when you went to the dentist. You are a very nice girl in the dentist chair. When I get in there I am pretty scared. But when I saw you I felt ashamed of myself. An maybe it will teach me a lesson. I'm glad that you read my letter. Well I have to eat so goodby.

Sincerely yours
Mary Lou Struz

Miss Shirley Dinsdale writes:

One VP of NBC was most grateful for the propaganda. He and his wife had been having great difficulty in the problem of dental hygiene as related to their small daughter. Since dental week, they couldn't force her to omit her toothbrushing, and he told the person who reported to us, "By golly! She carries her toothbrush with her when she goes out to dinner."

And at the bottom of children's letters we still get little notes from mother and dad saying: "Your dental week was certainly a boon to mothers and fathers."

One mother said, "Now we don't have to worry about the teeth—there is a contest to see who keeps his teeth brushed the most, and they are critical as they check upon each other to see that the right brushing technique is used."

One woman wrote, "Our Polly loved her candy, and was always rolling a life saver or a ginger ball around on her tongue. Her own dentist has talked and talked and tried to show her the dire results of such a habit, but it took Judy to do the trick."

The significant point in connection with our purpose in having a show of that sort is that the child is not only taking the responsibility

of carrying out the lesson, but is in turn standing watch over the older generation and teaching those who were unable to hear the instruction. That means the lesson has been clinched; since we know that the way to hold a lesson is to learn it and then give it out to some one else.

SUMMARY

The Oral Hygiene Committee of Greater New York assisted by the Bureau of Dentistry of the Department of Health conducted an effective publicity program during Children's Dental Health Week, February 6–11, 1950.

During the week, 582 special school auditorium exercises were held, 172 speakers delivered 296 talks in 209 schools, and 25 films on dental subjects received 300 showings. A dental bitewing x-ray project was conducted in 9 department stores at which 8,304 children had x-rays taken. The x-ray project was in a large measure responsible for the newspaper publicity, which, in turn stimulated greater interest by radio and television producers.

During the week and the two preceding, 16 daily newspapers published 45 columns on subjects principally related to dental health. Sixty weekly papers published 27 columns. The combined daily circulation was over 6 million and the Saturday–Sunday circulation was close to 10 million.

One hundred and fifty radio announcements were made during this week and mention was made of dental health on almost every popular radio program. Television broadcasts seemed to be successful in bringing the message to young children, but experience with production emphasized the difficulties of health education presentations in this medium.

Fungicidin, A New Antibiotic

Two staff members of the New York State Department of Health have isolated a new antibiotic drug which is effective against some types of fungous infection. The drug, named "Fungicidin," is derived from a member of the streptomyces family of organisms and was isolated from a sample of field soil collected in Virginia. Thus far it has been used only in experimental animals, but the results have been most encouraging, and clinical trials on patients will begin shortly. In tests against various fungi, the new antibiotic appeared to be both fungistatic (prevents further growth of fungi) and fungicidal (kills existing fungi). Tests also show that the drug is non-toxic for laboratory animals in curative dosages.

Discovery of the new antibiotic, the department pointed out, may have far-reaching effects since none of the present antibiotic drugs has been effective in the treatment of fungous infections. Systemic infections with fungi include a number of insidious, debilitating, and frequently fatal diseases, and even the superficial forms of fungous infections such as athlete's foot may be incapacitating.

The new discovery was made by Elizabeth L. Hazen and Rachel Brown of the department's Division of Laboratories and Research.

Geographic Variations of Dental Caries in Oregon

IV. Observations on First Molars as an Index of the Caries Experience in the Permanent Teeth of School Children 14–16 Years of Age *

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IT is generally agreed today that a dependable and accurate index of the caries experience in the permanent teeth of school children can be obtained by a summation of decayed, missing, and filled teeth. For reasons of brevity, the figure derived from such measurements is commonly referred to as the D.M.F. rate. However, it has been suggested by some investigators that among school children 6 to 15 years of age the degree of susceptibility to dental caries is indicated mainly by the loss (mortality) of first permanent molars, and also, that a sufficiently accurate measure of the condition of their permanent teeth can be secured from observations made on first molars alone.[1-3] From the point of view of public health dentistry, these methods, if dependable, will facilitate greatly the collection and analysis of data for the determination of the dental status of groups of school children.

It is the purpose of this paper to determine how accurately the wide differences found to exist in the caries experience derived from observations made on all permanent teeth between two groups of school children living in Oregon, would have been estimated by the application of the above mentioned simplified techniques.

On the basis of a preliminary investigation on the incidence of dental caries among freshman students attending Oregon State College,[4] two geographic areas of Oregon, the Coast and Central Oregon regions, were selected for further local study. Dental examinations were conducted in two counties in each of the geographic areas. In the Coast region the counties of Clatsop and Coos were investigated, and in the Central Oregon region the counties of Deschutes and Klamath. The subjects examined in the four counties were native born and reared white school children 14, 15, and 16 years of age. All dental examinations were performed by the senior author using mouth mirror and explorers. Observations were made only for permanent teeth exclusive of third molars. The dental caries experience of the subjects was measured by counting

* Read by title at the 23th General Meeting of the International Association for Dental Research, French Lick, Ind., March 24–26, 1950.

This paper is one of a series made possible through appropriations by the Oregon State Legislature in 1945 and 1947 for research under the direction of the Department of Foods and Nutrition, School of Home Economics. The Extension Women's Council of the State of Oregon was instrumental in obtaining the fund. With the coöperation of the Oregon Agricultural Experiment Station the study was carried out on the children observed in the Study of Nutritional Status of Population Groups in Selected Areas of Oregon, a Western Regional Cooperative project financed in part by funds appropriated under the Research and Marketing Act of 1946.

TABLE 1

Age and Sex Distribution of Native Born and Reared School Children Examined in Two Counties of Oregon

County	Sex	Age in Years (Last Birthday) 14	15	16	All Ages
Clatsop	Boys	37	23	32	92
	Girls	35	30	20	85
	Both Sexes	72	53	52	177
Klamath	Boys	36	37	29	102
	Girls	39	42	31	112
	Both Sexes	75	79	60	214

the number of filled teeth, missing teeth because of caries, teeth indicated for extraction, and carious teeth indicated for filling. Altogether, 741 children were examined, and the findings reported in detail elsewhere[5] revealed that there was a difference of varying degree in the caries experience of school children living in two areas of Oregon, and that the most pronounced disparity was observed between Clatsop county of the Coast region and Klamath county of the Central Oregon region. For the purpose of this presentation the discussion will be confined to the findings of these two counties.

For an explanation of the variability in the caries attack rates observed among the school children of the four counties, the following environmental factors were investigated: (1) fluorine content and total hardness of the public water supplies, (2) ratio of dentists to population, (3) amount of candy bars and carbonated beverages consumed, and (4) climatological data and altitude. The results of these investigations revealed[6] that the only factor of significance was the existence of an inverse relationship between the climatological data and altitude on one hand, and the caries attack rates on the other. The counties of the Coast region, where the caries attack rates were highest, were characterized by fewer hours of sunshine and by lower altitudes than those of the Central Oregon region. However, for further clarification of the sunshine-dental caries relationship, a study is now in the stages of preparation which will be concerned with measuring, in the two geographic areas of Oregon, the biologically effective component of ultraviolet radiation of sunlight.

The total number of children examined in Clatsop and Klamath counties was 391. Their distribution by sex, age, and county is given in Table 1. The number of subjects by sex in all age groups was about evenly divided in both counties.

The data presented in Table 2 show the dental caries experience (D.M.F.) in terms of teeth and tooth surfaces per

TABLE 2

Number of D.M.F. Permanent Teeth and Tooth Surfaces of Native Born and Reared School Children by Specified Age Groups in Two Counties of Oregon. Rates are Expressed per Child.

County	Permanent Teeth	Age in Years (Last Birthday) 14	15	16	All Ages
Clatsop	D.M.F. teeth	13.3	15.1	15.3	14.4
	D.M.F. surfaces	30.1	35.8	36.4	33.6
Klamath	D.M.F. teeth	7.5	9.6	10.0	9.0
	D.M.F. surfaces	15.2	19.2	20.7	18.2

TABLE 3

Index of Mortality and Caries-free First Permanent Molars of School Children in Two Counties of Oregon

Age	Number of Children	Total Number of First Molars	Mortality Missing + Extraction Ind.			Caries-Free First Molars		
			No.	%	Rate per Child	No.	%	Rate per Child
			Clatsop County (Coast Region)					
14	72	288	44	15.3	0.61	5	1.7	0.07
15	53	212	55	25.9	1.04	2	0.9	0.04
16	52	208	41	19.7	0.79	9	4.3	0.17
All Ages	177	708	140	19.8	0.79	16	2.3	0.09
			Klamath County (Central Oregon Region)					
14	75	300	58	19.3	0.77	58	19.3	0.77
15	79	316	60	19.0	0.76	51	16.1	0.65
16	60	240	56	23.3	0.93	42	17.5	0.70
All Ages	214	856	174	20.3	0.81	151	17.6	0.71

child by specified age groups of the subject population examined in the counties of Clatsop and Klamath. As can be seen from this table, the caries experience of the two groups of school children varied greatly. The average number of D.M.F. teeth of the 14 year old child in Clatsop county was 13.3, while that of his counterpart in Klamath county was 7.5, a difference of 5.8 D.M.F. teeth. A similar variability in the number of D.M.F. teeth and tooth surfaces was also observed in the subjects of the other age groups between the two counties.

In order to see whether or not observations confined only to lost permanent molars would have revealed a similar degree of caries susceptibility among the subjects in the two counties, the mortality of these teeth was computed, according to the method of Knutson and Klein,[7] by counting the number of teeth missing as a result of caries plus those indicated for extraction because of extensive caries. Furthermore, the number of caries-free first molars was also estimated.

The information obtained from these calculations is presented in Table 3. It is apparent from this table that, in general, the percentage of lost first permanent molars, and the rate of molar mortality per child for the subject population of the two counties under consideration, were similar. Therefore, in view of the D.M.F. rates presented in Table 2, should this simplified procedure have been used to measure the tendency to experience dental caries of the children residing in the two counties of Oregon, the results would have been entirely misleading. On the other hand, the indices of caries-free first molars observed between the two groups of school children clearly indicate the existence of wide differences in caries experience. In general, this disparity is illustrated by a ratio of almost 8 to 1 in the percentage and the rate per child of caries-free first molars between the subjects of the two counties.

The second simplified procedure for measuring the caries prevalence in the permanent teeth of school children utilizes observations made on first

TABLE 4

Dental Caries Experience in First Permanent Molars of School Children in Two Counties of Oregon

Age in Years	D. M. F. Rate per Child	
	Clatsop	Klamath
14	3.93	3.23
15	3.96	3.35
16	3.83	3.30
All Ages	3.91	3.30

molars alone. For the purpose of determining the dependability of this technique in revealing the magnitude of variation in the caries experience observed between the children examined in Clatsop and Klamath counties, the condition of the first permanent molars of the subjects was considered from the data contained in the dental examination records. This was done by a summation of decayed, missing, and filled first permanent molars. The results of this analysis, which are presented in Table 4, show that there was a difference in the D.M.F. rates of first molars between the subject population of the two counties, which also indicates an overall variation in their caries experience. However, these data fail to reveal the degree of wide disparities in the condition of the permanent teeth of the school children shown to exist (Table 2) when all of the permanent teeth are taken into consideration, hence they are of relative significance only.

CONCLUSIONS AND SUMMARY

From the foregoing presentation and discussion the following conclusions can be drawn: Within the age limits of the subjects considered in the present study, the caries experience of groups of school children can be determined accurately when observations are made on all permanent teeth. The use of simplified techniques does not elicit entirely satisfactory information. When consideration is given only to the mortality rates of first molars for measuring the degree of susceptibility to caries the results can be misleading. Instead, a count of caries-free first molars seems to be a dependable measurement. Observations on the condition of the four first permanent molars alone result in an index of caries prevalence which may be regarded as of limited significance.

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THE ST. LOUIS MEETINGS

THE writer has attended two previous Annual Meetings at St. Louis (in 1925 and 1942). The Seventy-eighth Meeting of a month ago was not only the most outstanding of the three, but was one of the most successful reunions in our history. The local committee was generous in its entertainment and coöperative in its planning. The complex machinery of the 129 different meetings held by the American Public Health Association, its Sections and its related organizations, worked with perfect smoothness; and, for this, the 4,000 persons in attendance owe a very real debt to Dr. J. Earl Smith, Chairman of the local committee, and his colleagues.

The succession of Dr. William P. Shepard to the Presidency and the choice of Dr. Gaylord W. Anderson as President-elect guarantee the continuance of the enlightened leadership we have enjoyed in the past; and the consent of Dr. Hugh R. Leavell to continue in the key position of Chairman of the Executive Board is a source of special gratification. The letter ballot for choice of the elective members of the Governing Council worked well; and we welcome the amendment to the Constitution which will permit members, as well as fellows, to participate in this ballot in the future. The most important of the resolutions adopted by the Council reaffirmed our support of the Local Unit plan of administrative health service and clarified the policy of the Association with respect to programs for the extension of medical care to those considerable sections of the population which now lack such care. The resolution on this latter point made clear the fact that this Association has not, and does not, endorse any particular legislative policy with regard to this complex subject. As an international health organization it would be improper for us to dictate to any of the governments represented in our fellowship; and it would be equally unwise for the representatives of public health in the United States—many of them officials in the federal, state, and local services—to take a partisan stand on a burning political issue. On the other hand, the resolution, as adopted, makes it clear that the American Public Health Association maintains its right to continue its impartial study of the technical issues involved and to make public the results of such free scientific inquiry without intimidation.

The technical sessions at St. Louis were of high caliber and covered an unusually wide field. The outstanding papers dealing with topics of broad appeal will, of course, be presented in these columns during the coming months. The present issue indicates two of the major problems which were highlighted in our deliberations—the importance—regrettable, but essential—of adequate preparation for protection of the health of the people as a central issue in Civil Defense; and the growing recognition of the responsibility of the United States for leadership in the positive promotion, in less fortunate countries of the globe, of that prosperity which is the surest basis of world peace (the "Technical Assistance" or "Point IV" program). The address by the Hon. Willard L. Thorp of the U. S. Department of State, which is the leading article of this *Journal* admirably presents this problem.

One particularly striking characteristic of the St. Louis program was the breadth of the field covered, indicating that our membership, while fully alive to the importance of carrying forward the traditionally accepted health programs of the past, is also keenly alive to the new challenges of the future. The inclusion of such topics of discussion as the following indicates this widening scope: the training and utilization of non-medical administrative experts on business management in public health; the applications of veterinary medicine in public health; home accident prevention; the hygiene of housing; rehabilitation; chronic disease; and multiphasic screening. Some interesting new techniques for the conduct of programs were also exemplified by the planning of forum and workshop sessions, by distributing mimeographed provocative questions to stimulate discussion (Medical Care) and by inviting written questions from the audience (Engineering).

The recipients of the Lasker Awards, Dr. George Wells Beadle, Dr. Eugene L. Bishop, Dr. George Papanicolaou, and the International Health Division of the Rockefeller Foundation were admirably chosen, reflecting honor on the Awards Committee, as well as on the recipients themselves.

The Annual Banquet was, as usual, the high point of the Convention. Dr. L. J. Reed's presidential address has already been presented in the November issue of this *Journal*. The award of our highest honor, the Sedgwick Memorial Medal, to Dr. Rolla Eugene Dyer was, again, a perfect choice. The elfin grace with which Abel Wolman actually made this presentation is imperfectly reflected in the admirable—but formal—citation which goes into the official records. This event, and the informal way in which the Forty-year Membership Certificates were presented, contributed greatly to the feeling of warmth and intimacy and friendliness which characterized the occasion. One felt that our Association was not merely a consulting group of professional experts, but a brotherhood of workers in a common cause.

SHALL THE WELL CHILD CONFERENCE WITHER AWAY?

AT the summer meeting of the Massachusetts Public Health Association, Dr. Sidney Cobb raised some challenging questions with regard to the future of the Well Child Conference. As Director of the Nashoba Associated Boards of Health, he said "Our basic tenet is that the interests of the child are best served when he receives his medical care and his health supervision from the same physician. In the field of obstetrical practice, the importance of prenatal care has

received increasing recognition in this rural Massachusetts health district until now there is hardly a case in which the mother is not under the supervision of her own physician for several months before delivery. Can we perhaps hope that the pediatrician's practice of health supervision for infants and children will similarly be adopted by the family physician? Can we not assume that this is an attainable end, even though the physicians have not had extensive pediatric training?" (There is not a single certified specialist with headquarters within the Nashoba District.)

Dr. Cobb gives the following reasons why he believes that a child is better off under the care of one physician than when he receives his health supervision from a child health conference and his medical care from his family physician. In the first place, one physician can never confuse the mother with conflicting advice as is frequently the case when a child is being seen concurrently by two different physicians for different reasons. In the second place, unified records promote efficiency and reduce the cost to the community. In the third place, when the family physician is called, he is in much better position to give temporary advice over the telephone for a child he knows and certainly he will be more ready at three o'clock in the morning to come to the home of a family he knows, than he will be to go to the home of strangers.

"While it is clearly in mind," Dr. Cobb adds, that "our objective is improved child health through unified medical care and health supervision, we must recognize the steps by which this end can be achieved. The first step is to operate superior Well Child Conferences and demonstrate the extent to which they are valued by the parents. The second step is to appoint physicians from the community to serve in these conferences and require that they learn the content of child health supervision, either through postgraduate course work or through inservice training. The third step is to persuade physicians who are successful in this type of work to expand the methods they use to hold health supervision cases. Finally, parents visiting Child Health Conferences must constantly have it drummed into them that they are receiving an incomplete substitute for the services of their family physician."

In relation to the argument that "the poor are always with us," Dr. Cobb points out that the "poor" in the Nashoba District are receiving good prenatal health supervision without benefit from any health department clinics. Therefore, it is reasonable to assume that in due course of time, child health supervision may become so ingrained a part of the medical care program of the practising physician, that he will provide it for his non-paying patients as well as for his paying patients.

Dr. Cobb concludes, "The Well Child Conference should be likened to the vitamin pill which is given to a child whose diet is deficient. That pill should be used to supplement the situation for a brief period until a good diet can be firmly established as part of the child's routine. I hope in my lifetime to see the supplement of Well Child Conferences disappear in favor of an integrated program of health supervision and medical care for every child."

The report of the A.P.H.A. Committee on Child Health, presented at our meeting in St. Louis raised no sharp issues with the basic assumption of the Nashoba program—except in the matter of timing. There was no apparent dissent from the view that a sound philosophy for obtaining the best kind of health care for children should be based on the following tenets:

1. All children should receive adequate health supervision.
2. It is preferable not to separate health supervision from care of illness.
3. The health supervision given by private physicians should be no less complete than that given in the child health conference.

4. At present child health conferences constitute a medium for setting standards and for training physicians.

The facts as we find them today are that all children are not receiving adequate health supervision and that outside of publicly operated child health conferences no mechanism exists in many parts of the country whereby private physicians do, or conceivably would, take over an appreciable portion of this task. For the present, then, we have not yet reached the point where child health conferences might be curtailed. Rather are we still in the stage of need for expanded child health conference services.

There can be little doubt that historically the practice of visiting a physician for health supervision of well children stemmed out of the experiences gained in child health conferences. What was good enough for the lower economic groups was soon recognized as being desirable for all children. In community after community, just as in the Nashoba District, parents after being inculcated at the child health conference show a strong tendency to shift over to private physicians for their younger children. The child health conference continues to carry the function of reaching those segments of the population who do not yet accept the importance of visiting a physician with a well child or are not able to obtain such service.

We must consider the child health conference as a dynamic, fluid, changing institution. Its content today is far different from that of a decade ago and its future content and method will be determined by scientific progress, professional development, and community attitudes. As a community becomes better informed and develops better health practices in child care, the child health conference in that community can discontinue certain emphases and move on to higher levels of public health education. The separation of health supervision from medical care and care of illness would naturally cease when a community reaches a certain level of understanding and practices in child care. In few places have we reached this point as yet because only within relatively recent years have the newer concepts of child psychology and maturation been applied in medical practice.

The work of the Well Child Conference is not, of course, limited to the problems directly related to clinical disease. It is much wider in its content and includes—or should include—the wider problems of child rearing. In this regard, the health supervision given today by private physicians in their offices is not usually as complete or as broad in scope as that attempted in child health conferences. Although the physicians in the child health conference may be the same ones as those in private practice in the community, they realize that they are operating under the aegis of an agency which is emphasizing parent education and child behavior. These are phases of modern pediatric practice that are time consuming and too often are glossed over by the busy private practitioner. The child health conference is able, despite its large case load, to maintain a broader scope, because of the presence of public health nurses who supplement the physician's contribution and who bring parent counseling into closer relationship with the home.

The child health conference performs at present a standard-setting function in a community. It is logical to expect that local medical societies will more and more share with health departments the responsibility of setting the standards of health supervision that are practised in child health conferences and are recommended for private physicians as well. The rotation of physicians through child health conferences, recommended by Dr. Cobb, would hasten general attainment of the desired standards of practice. The Well Child Conference will—and should—"wither

away" whenever, in a given area, the private practitioner can—and will—take over the job. The health department and the medical profession are not rivals but cooperating agents in a common task—the attainment of maximum health for the people.

In respect to health supervision of well children, our work for a long time to come will be in the direction of improving methods of parent counseling regardless of the exact administrative jurisdiction or auspices. Within the foreseeable future and for most parts of the country, the child health conference needs strengthening and expansion parallel with developments in private practice, and with other medical progress.

FROM SMALL BEGINNINGS

IN January of the year 1891, there was born a periodical that two decades later was to become the *American Journal of Public Health*. The name of this new quarterly was the *Journal of the Massachusetts Association of Boards of Health*. It was a daring venture in scientific journalism for it purposed to report in complete detail all that transpired at the quarterly meetings of this recently created society of health workers.

The pattern was promptly set. At the beginning of No. 1 of Vol. 1 of the *Journal* was a list of the officers of the Massachusetts Association and at the end was a roster of all 95 charter members. The issue opened with a verbatim record of the business meeting, complete to the point of indicating applause. Following it came the formal papers, and with each was a transcript of all the remarks of those of the 95 faithful who were present and who felt called upon to comment. Many did.

The first paper denounced the allegedly general practice of feeding garbage and offal to milch cows, incidentally lending support to the herdsman's belief that milk solids would thereby be increased. Acceptable sewage disposal methods monopolized the remainder of the first issue. In the succeeding numbers of that first volume, the chosen subjects of the papers were typical of the chief concerns of the groping 90's. For the most part they dealt with environmental sanitation, though one contribution gave assurances of the scientific validity of Pasteur's recent work with rabies—after disposing of the very general skepticism that persisted in high scientific quarters. The year's last issue closed with what is probably the first published parody (hygienic) on the Old Oaken Bucket.

All in all, the periodical must have seemed a formidable undertaking as an independent publishing enterprise and one unlikely to prove highly profitable, considering the length of the papers and discussions and the limited readership. More than the hope of profits in cash must have spurred the publisher on. We assume it was a commercial venture for in the treasurer's report upon the association's first year's expenditures totaling $99.58, there is no mention of any support for its "official" mouthpiece.

For reasons readily inferred, the first publisher, a West Newton gentleman, gave way at the end of the year to what was to become a succession of Boston enterprisers who turned to advertising to eke out publication costs even as we must do to this day. Mellin's Food early came to the *Journal's* aid and later products of such dubious hygienic worth as "Excelsior" lager beer and the harder offerings of the "Belle of Nelson" distillery were enlisted in the good cause. In the course

of these thirteen years of hand-to-mouth existence, this modest quarterly had published papers of immense scientific interest, and among the authors are the names of some of the most famous of our pioneers—Wallcott and Sedgwick, Chapin, and Theobald Smith, Prescott and Rosenau, and many more. Before Volume 13 ended we learn from the minutes of a business meeting that the latest of the line of publishers had "failed up." The association, of necessity, took over, the redoubtable Dr. Samuel H. Durgin becoming the *Journal's* first editor, assisted by Dr. H. W. Hill, as managing editor. The ponderous title of the *Journal* was further lengthened to become *The American Journal of Hygiene and the Journal of the Massachusetts Association of Boards of Health*. Editorials and scientific papers on subjects of nation-wide import appeared, though the quarterly meetings of the Massachusetts Association were still faithfully and completely recorded. Two early editorials by Chapin are characteristic of the man: one arguing against strict isolation of communicable disease, the other—with a strangely modern ring—urging the writing of annual reports that really report.

In 1906, when he left for the West, Dr. Hill gave up his managerial post to become associate editor, with B. R. Rickards stepping into the managing editor's shoes. Then, in 1907, the Massachusetts Association half of the title was dropped from the cover page, when the *Journal* became the official organ of the Laboratory Section of the American Public Health Association. The publication remained a quarterly, however, and steadfast still to the minutes of its founding organization until the end of 1910.

At this time the *Journal of the American Public Health Association,* a monthly, still under the Managing Editorship of Rickards, was launched by a "Committee on Journal" of A.P.H.A. leaders, among them Dr. Hill. This arrangement lasted only one year, and at the close of 1911 the publication again changed and shortened its name to the *American Journal of Public Health*. Dr. Livingston Farrand was the distinguished first editor and following him came our contemporaries whom we know too intimately to need mention here.

Browsing through these sixty volumes—particularly those of the first quarter century—becomes a rewarding and a heartening experience. Through them one may follow the minds of the writers, venturesome and adroit explorers in a strange new field who, without benefit of the training we enjoy, found and pointed the ways that we follow. They were fighters, too, who battled for ideas often with little thought to their effects on the fighter's fortunes or convenience. And the editors and publishers who labored, at what cost to themselves we can only surmise, that the record of those pioneering days might be handed down to us—they too deserve our gratitude.

THE PAGEANT OF AMERICA

THE year 1950 marks another journalistic anniversary which carries us much further back into the 19th century. *Harper's Magazine* has passed the century mark and its October Centennial Issue should be of vital interest to the members of this Association. Public health is a highly technical profession; but it is also a profession in peculiarly intimate contact with the structure of contemporary society. Its practitioners will function best if they understand the social framework in

which they operate and comprehend the basic philosophy which underlies that structure.

Three articles in this Centennial issue combine to give a perspective of the origins of American life and thought which is vivid and enlightening. Wolfgang Langewiesche paints a picture of the basic topographical background of the United States—its rivers and mountains, its railroads and its rectangular section lines, its cities and its villages—as viewed from the low-flying plane of a research pilot. Frederick Lewis Allen provides a compelling analysis of the impact of the industrial revolution on this side of the Atlantic, the light and the dark side of its 19th century stages, and the successful rebellion against its excesses in the 20th century. Through legislation, public services, development of powerful unions, the increasing social conscience of management and the logic of mass production (which demands a large and prosperous purchasing public), the threatening gaps between riches and poverty have been notably narrowed. He points out, however, that "the balance between economic liberty and political intervention offers a delicate problem in adjustment."

Finally, Bernard De Voto presents a thrilling summary of the broad philosophical and emotional trends which have evolved through this century of outstanding progress and have molded the "American spirit" of today, a spirit which—in its pragmatic empiricism and its fundamental idealism is now the hope of the world. The American people he says, "have never seen yesterday win over tomorrow. They believe that history is on their side and that they are on the side of the future."

We urge our readers to study these three papers, in the order listed above. They will help us all to do our part in meeting adequately the challenge before us. Destiny has perhaps never placed so heavy a burden of leadership upon any nation as rests on us today.

Clearing House on Public Health Salary Information and Personnel Needs

THE following article has been prepared by William R. Willard, M.D., associate professor of public health, Yale University School of Medicine, and chairman of the Subcommittee on Salaries of the Committee on Professional Education, American Public Health Association. His article describes a research project in the analysis of public health personnel and positions that he is directing at Yale.

The findings of the study will be reported in Clearing House at appropriate times.

Yale Public Health Personnel Research Project

An Administrative Analysis of Public Health Personnel and Staffing Patterns

1. *General*

The Department of Public Health of Yale University School of Medicine has undertaken a study of state and local public health personnel and positions related to present and desirable administrative practice. This survey is conducted with the active interest and coöperation of the American Public Health Association and the National Organization for Public Health Nursing, and is financed by a research grant from the Public Health Service.

2. *Objectives*

This project should result in a clear definition of the means to improved administrative and program planning of health services through a more efficient utilization of professional and technical public health workers. A serious handicap to providing health services and developing health programs is the persistent shortage of qualified workers. Public health agencies must be able to recruit adequate numbers of suitably trained workers, retain competent workers in the field, and effectively use available personnel.

3. *Data To Be Obtained*

(a) The essential core of the project is the recording of what various types of public health personnel actually do on the job, and the approximate proportions of time devoted to the various phases of their duties.

(b) From this basic data, it should be possible for the staff and public health experts to derive the following kinds of information about each of the various types of public health positions investigated: the requirements of a position in terms of aptitudes, knowledges, skills, abilities; of character and temperament; of schooling and training; of experience.

(c) Factors that influence the duties and performance of public health personnel are also being surveyed. For example, the following data are being gathered for each of the health agencies visited by the staff: organizational chart; personnel, facilities and equipment; programs conducted; relationships with other agencies directly or indirectly concerned with public health programs; geographical and socioeconomic data on the area.

From the various recorded and de-

rived data described above, one or more composite job specifications will be written for each general type of position, based on the survey of the position in the health agencies visited. In some instances several different composite job descriptions may be written for the same general type of position, corresponding to regional variations or to variations owing to type of health agency.

4. *Application of the Study Findings*

The composite job specifications and other tabulated data should be of considerable use in the following ways:

(a) *Selection and Recruitment*—To schools, public health agencies, and vocational counselors, in the selection and recruiting of public health workers.

(b) *Education and Training* — To schools and public health agencies in the education and training of personnel; especially in making decisions on the content of courses and training programs.

(c) *Efficient Administrative and Staffing Patterns*—To public health agencies, in providing a basis for agency organization and administration that will enable most efficient use of available professional personnel.

(d) *Classification*—To public health and other agencies interested in promoting fairer, more accurate and more uniform job specifications and classification systems.

(e) *Qualifications* — To the various professional and other agencies interested in the development of recommended qualification requirements for the various public health positions.

The project should also provide some comparative information basic to valid salary studies, and open new avenues for profitable research in public health administration.

5. *How the Data Are Being Obtained*

The members of the project staff are personally visiting approximately 8 state and 60 local health departments and a number of Visiting Nurse Associations. The agencies are distributed among all the main regions of the country, are of various sizes, and in both urban and rural areas. One to several weeks is being spent in each department, during which the required data are obtained by personal interview of some or all of the holders of the main types of professional-level public health positions in the agency, and, where feasible, also by observation of actual job performance. Some use may be made of time-study sheets. It should be emphasized that many good agencies are necessarily not in the sample, and that observation of job performance is to obtain a picture of job-practice in good agencies, not to criticise any individuals.

The project complements studies of the A.P.H.A. (evaluation of sanitation programs), the N.O.P.H.N., and the U.S.P.H.S. To avoid overlapping and insure maximum usefulness of the project to these and other groups, appropriate liaisons have been established. The project is being assisted, and will continue to be at various stages, by an Advisory Committee and expert consultants. The Advisory Committee, as currently constituted, consists of:

John MacDougal, chief, Section on Administrative Methods, U. S. Children's Bureau

Prof. Stephen Bailey, Wesleyan University, Department of Political Science

Alfred Burgdorf, M.D., director of Health, City of Hartford

Ruth Fisher, R.N., National Organization for Public Health Nursing

Roscoe P. Kandle, M.D., field director, American Public Health Association

Edmund K. Kline, Dr.P.H., director of laboratories, Cattaraugus County (N.Y.) Health Department

Donald Simpson, assistant administrative officer, Bureau of State Services, U. S. Public Health Service

Clarence Sterling, chief sanitary engineer, Massachusetts State Health Department

V. A. Van Volkenburgh, M.D., assistant commissioner, Local Health Services, New York State Department of Health

James Watson, executive director, National Civil Service League

6. *Operations through September, 1950*

During the first three months of the project, the staff surveyed the literature in the field and discussed the project in interviews with many representatives of official and unofficial agencies in Washington, New York, and New Haven. Basic procedures were determined and tested through trial interviews and observations of performance in three local health departments and two Visiting Nurse Associations. In September considerable help was obtained from the first meeting of the Advisory Committee, and during the whole period from the services of various consultants, including a representative of the N.O.P.H.N., who accompanied the staff on some of the trial visits. By October the preliminary work was completed, after which the staff began visiting the agencies selected.

MISCELLANEOUS SALARY DATA

Salaries of probation and parole officers in state governments and in local governments embracing populations of 100,000 or more have been studied by the National Probation and Parole Association (1790 Broadway, New York 19). The findings are published in a mimeographed report, "Salaries of Probation and Parole Officers in the United States." Says the foreword familiarly "The schedules show that salaries in all positions are unstandardized and reveal wide and disparate variations among the various jurisdictions. Probation and parole personnel is underpaid in the light of present living costs."

Salary levels of office clerical workers in Atlanta, Memphis, and Oklahoma City in early 1950 were studies by the U. S. Bureau of Labor Statistics. The findings are published in the *Monthly Labor Review* of June, 1950. It covered 354 establishments and nearly 17,000 workers, of whom the largest number, 3,200, were general stenographers. Their median weekly salaries were $43.50 in Oklahoma City, $42.50 in Atlanta, and $41.50 in Memphis. *Monthly Labor Review*, 70:6 (June), 1950. This is mentioned here merely as a sample of the type of salary data frequently appearing in the *Review*.

Also in the June *Review* is "OASI Annual Earning Series, 1939–1948." This is a detailed analysis of annual earning statistics obtained by the Bureau of Old-Age and Survivors Insurance. It discusses the value of annual earnings information, rising levels, and changes in purchasing power and interindustry differences in earnings.

BOOKS AND REPORTS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted

Handbook of Medical Protozoology—*By Cecil A. Hoare. Baltimore: Williams & Wilkins,* 1950. 334 pp. Price, $7.00.

This textbook by the protozoölogist to the Wellcome Laboratories of Tropical Medicine, London, covers in an authoritative manner the essential facts concerning the protozoan infections in man with emphasis on their morphology, identification, and host-parasite relations. It deals with the clinical aspects of these infections only as they reflect the interaction between parasite and host. Therapy is entirely omitted.

Part I gives a general account of the protozoa, including their structure, reproduction, and physiology, followed by their zoölogical classification and their ecology, including host-parasite relationships, the action of drugs, and the geographical distribution of protozoal diseases. Part II gives a systematic account of the protozoa inhabiting the alimentary and genital tracts and the blood and reticulo-endothelial system, with a separate section on Toxoplasma and Sarcosporidia. Part II presents diagnostic methods.

The author's presentation of the subject is concise and accurate so far as present knowledge permits. It is somewhat dogmatic, as he himself admits, and avoids most controversial points in favor of simplicity. References to the literature are entirely omitted from the text, which is a handicap to students wishing to confirm the author's statements. At the end of the book there is a section on bibliography, including textbooks, monographs, and a few articles in journals. This could have been somewhat extended with profit. The chapters in Part III on technique present a few standard methods for the collection, examination, and culture of protozoa and for the dissection of insect vectors. One error frequently repeated in the text is reference to Chapter 17 instead of Chapter 18 for the technique of staining. One technique for the preservation of intestinal protozoa for mailing to a laboratory, which might have been profitably included, is the use of polyvinyl alcohol which has been found of value by the Communicable Disease Center of the U. S. Public Health Service.

The figures and colored plates are simple and well executed, and the tables are helpful in differential diagnosis. The book is well printed on heavy paper with good type, and typographical errors are very few. It is a valuable addition to the literature on medical protozoölogy and should be available to all students, practitioners, and laboratory workers who are actively engaged in this field.

HENRY E. MELENEY

School Health Manual—*Prepared by a Joint Committee of the Minnesota Department of Health and State Department of Education. (2nd ed). Minneapolis: State Board of Health,* 1950. 101 pp.

This manual covers the school health field so thoroughly that it leaves little for the reviewer to discuss. It should be a must for every school executive and school health worker.

The committee is to be congratulated for their broad and far sighted view that the support and control of school health work should be placed with the Board of Education wherever the school system

is large enough to make this possible. The only serious criticism which can be made is that a teacher should be appointed as health director. The reviewer believes that any school system large enough to employ a full-time physician should appoint that physician as director of health and allow him to call upon teachers to help with the program. In school systems in large cities the physician who directs the health work should be made an assistant superintendent with the salary and honor which such a position carries. This is vital if the school authorities expect their health department to assume its proper place in the school system and expect to secure the best trained physicians capable of carrying on as outlined in this pamphlet. The teacher's part in the health work is well outlined and should give the teacher a broad understanding of school health work.

The part of the custodian and bus driver is well covered. Too many school health manuals slight the part these individuals play in the work. The advice on the formation of a school health council is intriguing, it advises bringing into the council, executives, teachers, nurses, physicians, dentists, board members, representatives from official and voluntary health and social agencies, parent and teacher associations and other lay members. Such a council can be of great help to any health department.

Directions for health examinations and control of communicable diseases are adequate. The directions for sanitation in lunch rooms and classrooms are thoroughly covered.

AMOS L. BEAGHLER

The Basis of a Development Program for Colombia—*Report of a Mission headed by Lauchlin Currie. Washington, D.C.: International Bank for Reconstruction and Development,* 1950. 76 pp. Price, $.50.

This is a unique report recounting a mission to Colombia sponsored by the International Bank for Reconstruction and Development in Washington in cooperation with the National banking agency. It is unusual in banking circles to find such recognition of the strategic importance of public health in a development program for a South American country. The chapter on public health represents an enlightened point of view as one would expect, since the adviser on health and welfare was Dr. Joseph W. Mountin, Assistant Surgeon General of the U. S. Public Health Service. Other important references to public health may be found in the sections on housing, agriculture, and public utilities. The report is important in terms of its content but even more notable in terms of its pattern for similar reviews of other nations to be made by those whose chief concern grows out of economics.

REGINALD M. ATWATER

Clinical Pathology — *Application and Interpretation:—By Benjamin B. Wells. Philadelphia: Saunders,* 1950. 397 pp. 32 fig. Price, $6.00.

The purpose of this volume is to present the procedures of the clinical laboratory in such a manner as to enable the practising physician to select intelligently those tests which offer the most likelihood of getting results which will be of benefit to his patient, and to give him the background information necessary correctly to interpret laboratory reports. This is done by discussing individual diseases and outlining for each of them (1) what tests to order, (2) how to interpret the results, and (3) what technical or physiologic limitations are inherent in each test.

A chapter is devoted to each of the general groups; infectious diseases, diseases of the gastrointestinal system, the respiratory sytem, kidney and urinary tract, blood, cardiovascular system, metabolic and endocrine disturbances.

These are followed by chapters devoted to laboratory studies in surgery and obstetrics, and a final appendix discussing laboratory aid in symptom diagnosis.

The presentation of the material is well organized, concise, and clear. Since it is not intended to be a laboratory manual, technical details and directions for performing tests are omitted or minimized. The importance of the objectives of the volume is well stated in the introductory paragraph: "We must constantly be aware of the fact that laboratory results are only one aspect of the total clinical observation. Seldom, if ever, are these tests subject to valid interpretation except as they pertain to all other manifestations which characterize the normal or abnormal state of the patient. Insufficient or improper use of the laboratory is most often an evidence of ignorance; excessive reliance on laboratory results is proof of inexperience."

The volume should have wide acceptance by both clinicians and clinical laboratory workers. Your reviewer, as a laboratory director, certainly would be pleased to have the physicians submitting specimens to his laboratory thoroughly conversant with the principles and contents of the volume when they request examinations and interpret laboratory reports.

E. K. KLINE

The Pathogenesis and Pathology of Viral Diseases—*Edited by John G. Kidd. New York: Columbia University Press,* 1950. 235 pp. Price, $5.00.

This, the third in a series of symposia held by the Section on Microbiology of the New York Academy of Medicine, comprises a series of 14 presentations dealing with various aspects of the development of certain virus infections or their pathology. It is not a systematic textbook but a series of observations and interpretations largely representing experimental work in which the individual contributors have engaged. Shope's article presents his studies which deal with the origin of epidemics and the role of the silent intermediate host. Buddingh shows the similarity and significance of infection of the chick embryo in revealing the cytotropic specificity of virus injury. The relationship between animal viruses and cells by Dalldorf, the union of bacterial viruses and cells by Anderson, the electron microscopic observations of Wyckoff on the growth of bacteriophage and its similarity to that of self-reproducing organisms, give a good background of problems currently prominent in the virus field. The chapters on cutaneous infections by Scott and his associates, on viral exanthems by Fenner, and on poliomyelitis by Howe, clearly seek to give insight into the mechanisms by which disease is produced.

The discussion by Ash on yellow fever, by Magill on infections of the respiratory tract, by Kidd on tumors, by Lillie on lymphocytic choriomeningitis, and by Wolf on viral encephalitides, are on the other hand much more the descriptive pathology of injury or reaction to viral agents. There is, in addition, an interesting chapter by Pearce on experimental carditis produced by viruses in conjunction with physiological injury, which stimulates thought.

Dr. Kidd, serving as editor for the series, states that the symposium was arranged "with the aim of probing into the unknown as well as reviewing" some of the problems. The objective has been achieved; in addition the book promotes a point of view that needs to be more uniformly adopted—the interpretation of the essential mechanisms as a proper basis for understanding of the phenomena of disease. One does not have to agree with all that is said; in fact there are numerous points for sharp disagreement, but the book represents interpretations, not authoritative edicts.

THOMAS FRANCIS, JR.

The Prostate Gland—*By Herbert R. Kenyon. New York: Random House,* 1950. 194 pp. Price, $2.95.

This is a very readable account in a style adapted to the intelligent layman of the present knowledge of the prostate, its physiology and pathology. The extraordinary improvement of medical and surgical methods during the last 30 years is well presented. The attitude is that of the candid physician dealing with a patient who wants the facts. It is worth reading by doctors and nurses who can also profit by a knowledge of the encouraging advances in this specialty. REGINALD M. ATWATER

Bacteriological Technique—*By W W. W. McEwen (1st ed.). New York: Chemical Publishing Co.,* 1950. 286 pp. Price, $4.50.

This is a guide for medical laboratory technicians, with comprehensive material based upon the author's quarter century experience in English hospital and public health laboratories and in teaching. Precise instructions both in elementary detail and routine diagnostic procedure are given from a technological viewpoint. Since the author is an Associate of the British I. M. L. T., we may assume that his meticulous attention to the demands of accuracy reflects their general standard.

There is a logical sequence in the presentation of the subject matter: (a) the basic requirements of a laboratory for adequate accommodations, equipment, apparatus, sterilization, media, specimen containers, and records; (b) general technique, which progresses to (c) specialized techniques demanded by the infinite variety of cultural, serological, and environmental diagnoses made daily in any general laboratory.

The universality of routine bacteriological examinations establishes the fact that, properly and conscientiously performed, such standard methods are good technique. A comparison of the methods advocated by this guide, allowing for evident "preferred British variations," shows excellent interpretation. Emphasis is made of the wisdom for cooperation of workers in technique in order to facilitate work in time of emergency. Ingenious laboratory gadgets are described, while occasional dry humor enlivens the test. Assimilated, this volume should make a good worker the better technician.

CATHARINE ATWOOD

The Diagnosis of Salmonella Types—*By F. Kauffmann. Springfield, Ill.: Thomas,* 1950. 84 pp. Price, $2.25.

If this little book were no more than a very practical guide to the identification of bacteria of the Salmonella group, it would appeal only to the limited group of workers who specialize in that field. However, it has achieved a more comprehensive coverage of the theory and practice of the subject than one would have thought possible in so brief a treatise, and it has done this without assuming more knowledge on the part of the reader than he is likely to have obtained from an elementary bacteriology course. Pages of text have been saved by compact wording and phrasing, free use of tables in presenting data, and provision of references to original sources. As a handbook, and as a model for the concise treatment of an involved theme this booklet should appeal both to teaching and to practising bacteriologists. RALPH E. WHEELER

Elements of Healthful Living—*By Harold S. Diehl (2nd ed.). New York: McGraw-Hill,* 1950. 330 pp. Price, $3.00.

Persons teaching an abbreviated course in hygiene at the college level will be interested in the revised edition of Dr. Diehl's *Elements of Healthful Living.* This contracted book is of the same high quality as the author's *Textbook* of the same name. In fact, most

of the subject matter in this abridgement is taken directly from the latest revision of the larger work, representing 17 of the 30 chapters presented there. With the exception of the last, all these chapters deal with personal health, and only one is devoted specifically to public health. The extensive appendix in the *Textbook* has been cut to 18 pages in the abridged text, omitting the valuable reprint of *The Control of Communicable Diseases in Man,* published by the American Public Health Association.

Many students may consider it more worth while to purchase the larger *Textbook* at $4.00 even though its treatment of the subject cannot be covered completely in a short college course. That it was necessary to issue an abridgement is a sad commentary on curriculum planners who insist on relegating such an important subject to so brief a consideration. WILLIAM W. STILES

Healthy Babies Are Happy Babies—*By Josephine Hemenway Kenyon and Ruth Kenyon Russell. New York: A Signet Book, published by The New American Library,* 1950. 237 pp. Price, $.25.

Since its first edition in 1934, written by the senior member of this team, this book has been one of those most widely used by mothers of young children. If one were obliged to describe the present edition in one word, one would designate it as "practical," written as it is by two women (mother and daughter) not only trained in scientific medicine but experienced as mothers.

The first 50 pages of the book are given over to prenatal advice, one brief chapter is on the premature baby, one on the new-born full-term infant. Most of the book follows the baby chronologically from birth to 3 years of age, considering for each stage physical, mental, and emotional aspects of development, and factors in the environment which affect them. Interspersed are footnote references to other current books for the parent who wishes to read further. At the end are discussions of communicable diseases of childhood, other conditions, accidents and emergencies.

The book includes consideration of childbirth without fear, the Rh-factor, rooming-in of the new-born, permissiveness in infant feeding, and other up-to-date approaches to motherhood. One phase which appealed to this reviewer is the continued interest in preventive care of posture and feet at each stage of the child's development.

This little popular priced book should prove a useful addition to the equipment of the young mother or prospective mother. FLORENCE A. BROWNE

Inter-Allied Conferences on War Medicine—*Convened by the Royal Society of Medicine, 1942–1945. Honorary Editor, Major General Sir Henry Letheby Tidy; Assistant Editor, J. M. Browne Kutschbach. London: Staples Press, Ltd.,* 1947. 524 pp. Price, $5.00.

This book is unique. In no other work has there been brought together the war experiences of the medical men of so many countries in so many fields. It is nonetheless a faithful record of the proceedings of the Inter-Allied Conferences on War Medicine.

These conferences, born of a suggestion by Brigadier General Elliott C. Cutler, U.S.A., and sponsored by the Royal Society of Medicine of Britain, brought together as an organizing committee the chief medical officers and the consultants in medical specialties from the United Kingdom, the United States, Canada, and the governments in exile. Chairmaned by Major General Sir Henry Tidy, they assembled medical men of the allies in Europe and guests and speakers from the several theaters of war.

The content comprises thirteen sections according to medical specialty,

military medical problems, and organization of the medical services. Medicine in war comes to life in these pages through the recounting by men who had lived the experiences of which they spoke. For those who saw medical service in a theater of war, there is presented an authoritative cross-section of war medicine; for others a convincing and interesting account of the problems of the doctor in a vast global military effort.

Unfortunately, there is not a section on Military Preventive Medicine. So much of military medicine is preventive in scope, however, that the omission becomes less noticeable as each section develops subjects of interest to the public health and preventive medicine expert. Brief stories of campaigns, military actions, and personal war experiences complement the accounts of malaria, dysentery, infectious hepatitis, typhus fever, nutrition in some of the occupied countries, the Bengal famine, and the German concentration camps. The resumes of progress in war medicine in the final section are outstanding.

The book is well bound in cloth, print is excellent and the few illustrations are well done. A foreword by Major General Paul R. Hawley, U. S. Army, Chief Surgeon, European Theater of Operations during the war, emphasizes the international good will in medicine that resulted from the conferences, and adds materially to the value of the book.

TOM F. WHAYNE

Training for Childbirth—*By Herbert Thoms. New York: McGraw-Hill,* 1950. 114 pp. Price, $3.00.

Training for Childbirth is directed primarily to the doctors and nurses who have been asking for a detailed account of the natural childbirth program as it is carried out for obstetrical patients in the university service of the Grace-New Haven Community Hospital and in the private practice of physicians.

The basic philosophy of the program, Dr. Thoms states in his introduction, is as old as the race itself, and he quotes the Sage of Concord, who likens the student of history to a man who fancies he has found a new article. "If he goes to the factory," wrote the Sage, "he shall find that his new stuff still repeats the scrolls and rosettes which are found in the interior walls of the pyramids of Thebes."

The monograph presents the practical aspects of the educational program for childbirth as it has been developed at the hospital. It outlines content of classes; emphasizes the need for support and care during labor; and describes the significance of rooming-in as part of the natural childbirth program. It also appraises the results from the points of view of the obstetrician and of the patient. Its conclusion that "specialized" support during labor is the most important single factor in the program is reënforced by "success" statistics.

The considerate treatment accorded the mother and the high regard in which her views are held in the program are evidenced throughout the book and are among its outstanding contributions to the literature on the art of managing pregnancy and labor.

Dr. Thoms is convinced that psychological and physical preparation for childbirth is important and will be of help to every woman who is granted the experience of motherhood. He recognizes, however, that many have special problems requiring other types of assistance and states that studies seeking ways to resolve such problems are now being made by psychiatrists in the university clinic and elsewhere.

Doctors and nurses who desire to help expectant parents derive ever greater satisfactions from the childbearing experience, as well as expectant parents themselves, will find information of practical help in this book. The currently popular program which it de-

scribes, as well as the principles on which it is based, deserve their thoughtful study. HATTIE HEMSCHEMEYER

Tuberculosis Handbook for Public Health Nurses—*By Jean South. New York: National Tuberculosis Association,* 1950. 88 pp. Price, $.50. Obtainable from state and local tuberculosis associations.

Nurses will welcome this new addition to the growing number of authoritative and useful "handbooks." *The Tuberculosis Handbook for Public Health Nurses,* by Jean South, who is N.O.P.H.N. Consultant of the Joint Tuberculosis Nursing Advisory Service, approaches the disease from the point of view of the family and community and stresses the teaching aspects of the nurse's job and her responsibility for rallying the community resources for case finding, control and prevention.

Specifically, fresh information regarding the epidemiological factors in tuberculosis, practical suggestions for the conduct of clinics and, most needed of all, a generous chapter giving detailed instructions for appraising nursing service to tuberculosis patients, make this handbook a successful reflection of Miss South's own wide experience and its careful review by the experts in the field.

Critical reading reveals only basically acceptable, forward-looking and feasible suggestions within the scope of the average public health nurse in the average community. The cause of tuberculosis prevention will be definitely furthered by familiarity with this handbook and the practice of its recommendations. DOROTHY DEMING

Preventive and Corrective Physical Education—*By George T. Stafford (rev. ed.). New York: Barnes,* 1950. 312 pp. Price, $3.75.

It is important that such books as this are revised, reprinted, and made available to people year after year. Dr. Stafford has rewritten his excellent basic text on physical education for the handicapped and this revised edition has lost none of the virtue of its predecessor. In the foreword, by L. J. Linck, and preface, are these statements describing the purpose and field of the book:

> This timely and thorough revision of what has long been an outstanding text in the area of preventive and corrective physical education will be welcomed by all those interested in the conservation of human resources. It is an invaluable guide and informational source concerning many types of handicapping conditions and the approach to meeting the problems which they impose.

And the author tells us that—

> *Preventive and Corrective Physical Education* is written for all who are concerned with the care and education of handicapped individuals—students and teachers of physical education, classroom teachers, physical therapists, occupational therapists, nurses and parents. . . .
>
> The author has attempted to present in one volume the modern concepts of the therapeutic exercise phase of physical medicine in the prevention and correction of common handicapping conditions.

In content the book covers a wide range of information describing the fields of physical medicine and of preventive and corrective physical education, discusses body mechanics and the treatment of faulty usage. It has thorough chapters on feet, malnutrition, and poliomyelitis and cerebral palsy, and is well indexed.

It is this sort of experience written as Dr. Stafford has presented it, which illustrates well how basically important coördination of our preventive and reparative services is. Schools and colleges with well developed physical education programs conducted by professionally prepared teachers have not only an obvious responsibility for the atypical student but have the means at their command to make substantial contributions to the welfare of these variants.

Stafford, like others in this area, has been pointing the way for years. This present revision is significant and helpful. DELBERT OBERTEUFFER

BOOKS RECEIVED

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not all, of the books listed.

ANTIHISTAMINES. INDUSTRY AND PRODUCT SURVEY. Nathan Wishnefsky. New York: Chemonomics, 1950. 157 pp. Price, $5.00.

ARTHRITIS—AND THE MIRACLE DRUGS. Alton L. Blakeslee. New York: Public Affairs Committee, 1950. 32 pp. Price, $.20.

CARE AND BREEDING OF LABORATORY ANIMALS. Edited by Edmond J. Farris. New York: Wiley, 1950. 515 pp. Price, $8.00.

CANCER CONTROL IN PUBLIC HEALTH. Papers Presented at the Annual Meeting of the Public Health Cancer Association, October 23–24, 1949. Boston: Public Health Cancer Association, 1949. 78 pp.

CHEMISTRY. VISUALIZED AND APPLIED. Armand Joseph Courchaine. New York: Putnam's, 1950. 685 pp. Price, $5.50.

CONFERENCE ON CYBERNETICS. Transactions of the Sixth Conference March 24–25, 1949. New York: Josiah Macy, Jr. Foundation, 1950. 209 pp. Price, $3.50.

DIAGNOSTIC PROCEDURES AND REAGENTS (3rd ed.) Subcommittee on Diagnostic Procedures and Reagents of the A.P.H.A. New York: A.P.H.A., 1950. 589 pp. Price, $6.00.

FACTS OF LIFE AND LOVE. FOR TEENAGERS. Evelyn Millis Duvall. New York: Association Press, 1950. 360 pp. Price, $3.00.

FIRST NATIONWIDE WORKING CONFERENCE ON SANITATION FIELD TRAINING. Chapel Hill, N. C., April 25–28, 1950. Chapel Hill, N. C.: School of Public Health, University of North Carolina, 1950. 28 pp.

HAIRFREE: THE STORY OF ELECTROLYSIS. Samuel Simon. Miami Beach, Fla.: S. Simon, 1370 Washington Ave., 1948. $2.00.

HEALTH INSTRUCTION YEARBOOK 1950. Oliver E. Byrd. Stanford, Calif.: Stanford University Press, 1950. 270 pp. Price, $3.50.

HEALTH SERVICES IN STATE INSTITUTIONS OF HIGHER LEARNING IN MISSISSIPPI. Report of a Survey. F. O. Robertson. Washington: American Council on Education, 1950. 67 pp. Price, $1.00.

HEALTH SERVICES FOR CHILDREN OF SCHOOL AGE. Washington: Children's Bureau, Public Health Service, 1950. 24 pp.

HOW TO SURVIVE AN ATOMIC BOMB. Richard Gerstell. New York: Rinehart, 1950. 150 pp. Price, $1.95. Also Bantam Book Copy for $.25.

MEDICAL ENTOMOLOGY (4th ed.) William B. Herms. New York: Macmillan, 1950. 643 pp. Price, $9.00.

PUBLIC RELATIONS PROGRAMS. Sallie E. Bright. New York: National Publicity Council, 1950. 44 pp. Price, $1.00.

PRIMER ON ALCOHOLISM. Marty Mann. New York: Rinehart, 1950. 216 pp. Price, $2.00.

PRINCIPLES OF GENERAL PSYCHOPATHOLOGY. Siegfried Fischer. New York: Philosophical, 1950. 327 pp. Price, $4.75.

PROBLEMS OF INFANCY AND CHILDHOOD. Transactions of the Third Conference March 7–8, 1949. New York: Josiah Macy, Jr. Foundation, 1949. 156 pp. Price, $1.25.

RENAL FUNCTION. Transactions of the First Conference October 20–21, 1949. New York: Josiah Macy, Jr. Foundation, 1950. 172 pp. Price, $2.50.

SANITARY INSPECTOR'S HANDBOOK (7th ed.) Henry H. Clay and Sir Wilson Jameson. London: H. K. Lewis, 1950. 565 pp. Price, 25 s net.

SYLLABUS OF LABORATORY EXAMINATIONS IN CLINICAL DIAGNOSIS. Edited by Thomas Hale Ham. Cambridge, Mass.: Harvard University Press, 1950. 496 pp.

THRESHOLD OF THE ABNORMAL, THE. Werner Wolff. New York: Hermitage House, 1950. 473 pp. Price, $6.50.

UNDERSTANDING NATURAL CHILDBIRTH. Herbert Thoms. New York: McGraw-Hill, 1950. 112 pp. Price, $3.50.

VENEREAL DISEASE CONTROL IN THE USA. Report of the WHO Syphilis Study Commission. World Health Organization. New York: Columbia University Press, 1950. 72 pp. Price, $.45.

VETERINARY BACTERIOLOGY AND VIROLOGY (4th ed.). Ival Arthur Merchant. Ames, Iowa: Iowa State College Press, 1950. 885 pp. Price, $8.50.

VITAL STATISTICS OF THE UNITED STATES 1948. Parts I and II. Prepared under the Supervision of Halbert L. Dunn. Washington: U. S. Gov. Ptg. Office, 1950. Part I, 230 pp. Price, $2.50. Part II, 634 pp. Price, $4.00.

YOU CAN TOO! Acquire a Beautiful Figure, Enjoy Better Health, Increase your Popularity and Lead a Richer Life. Mary Jane Moore. New York: J. J. Tepper, 1950. 141 pp. Price, $2.00.

A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

RAYMOND S. PATTERSON, PH.D.

Start at the Beginning — To introduce a series of articles on planning, operating, and following-up a community chest x-ray survey, this paper clears the ground so promisingly that all will want not to miss it.

ANON. Community-Wide Chest X-Ray Survey. *Pub. Health Rep.* 65, 40:1275 (Oct. 6), 1950.

A Not-Dangerous Little Knowledge — Preventing blindness may or may not be a responsibility of community public health administration but every health worker should know and broadcast this fact: in children with crossed eyes, treatment for loss of vision due to misuse should begin before the age of four.

CLARKE, C. C. Age Factor in the Treatment of Amblyopia Ex Anopsia. *Sight-Saving Rev.* 20, 3:151 (Fall), 1950.

Food for Statistical Thought — You'll find more information about incidence of disabling illnesses in this analysis than you could digest in a month of Sundays. Just the tables "Annual Days of Disability" and "Disabling Days per Disabling Case" should start you off on a protracted rumination.

COLLINS, S. D., *et al.* Specific Causes of Illness Found in Monthly Canvasses of Families. *Pub. Health Rep.* 65, 39:1235 (Sept. 29), 1950.

Diphtheria Must Be Growing Up —Case fatality rates (for diphtheria) are increasing among age groups over 20 in many states—though, of course, the total incidence continues its general downward trend. Something other than widespread immunization may account in part for the latter phenomenon.

DAUER, C. C. Trends in Age Distribution of Diphtheria in the United States. *Pub. Health Rep.* 65, 38:1209 (Sept. 22), 1950.

Better News for Baltimorians — The rat population of Baltimore seems to have declined from 165,000 in 1947 to about 60,000 in 1949—or one rat for each 15 people. In much bigger New York there probably were not more than a quarter million rats altogether—or about one for each 36 men, women, and children.

DAVIS, D. E., AND FALES, W. T. The Rat Population of Baltimore 1949; (and) DAVIS, D. E. The Rat Population of New York 1949. *Am. J. Hyg.* 52, 2:143 (Sept.), 1950.

Does This Come Close Home? — In twenty London hospitals patients with cancer of the lung, stomach, or colon were interviewed by "almoners" in regard to their smoking habits. (A non-cancer control group also was interrogated.) The findings lead the writers to the conclusion that cigarette smoking is an important factor in the cause of carcinoma of the lung.

DOLL, R., AND HILL, A. B. Smoking and Carcinoma of the Lung. *Brit. M. J.* 4682: 739 (Sept. 30), 1950.

Elusive Coxsackie—It will do you good to read this paper and the discussion following it, if only to gain a little comprehension of the difficulties confronting the virologists who are trying to find some sort of order in the compounded confusion of viral infections.

HUEBNER, R. J., *et al.* Studies of Coxsackie Viruses. *J.A.M.A.* 144, 8:609 (Oct. 21), 1950.

Disaster Preparedness—If administrators will prepare themselves to deal

adequately with sanitary emergencies created by peacetime disasters, they will have taken one step toward meeting the infinitely worse menaces of wartime holocausts. Incidentally the former may be less awful to contemplate but they seem surer, for relentlessly they come to plague some community as year follows year.

INGRAM, W. T. Emergency Sanitation in Plant Protecting Programs. *Modern San.* 2, 10:16 (Oct.), 1950.

And Why the Quotes, Please?—Cancer Control—control in quotes—is a public health problem, but more than the constituted public health authorities are needed to accomplish it. Wanted most is leadership to get all the groups and agencies working together.

KAISER, R. F. Why Cancer "Control"? *Pub. Health Rep.* 65, 38:1203 (Sept. 22), 1950.

Quote-of-Month—"The practice in Glasgow is roughly as follows: after the removal of the (smallpox) patient to hospital, and other members . . . to a reception house, the house is prepared for disinfection. First, all bedding . . . etc., are placed in canvas bags for removal. . . . After the stripping of the house the disinfector gets to work . . . and every nook and corner is given a thorough soaking. The house is then sealed up. . . . This method . . . has proved very effective. . . ."

LAUDER, G. D. Smallpox Outbreak. The Role of the Sanitary Inspector. *The Sanitarian* (Br.) 58, 12:465 (Sept.), 1950.

From Infected Rodents — Recent cases of plague, though sporadic, are occurring with disturbing frequency—in the Southwest—and at rates greater than the average yearly incidence. It's time to be more watchful, warns this pathologist. Incidentally, penicillin doesn't help.

LINK, V. B. Plague. *J.A.M.A.* 144, 5:375 (Sept. 30), 1950.

Are There Worse Evils?—Even if we could eradicate malaria from the tropics, would it be wise to do so if it resulted in a greater population increase than a backward agricultural and economic development could take care of? This question was raised and discussed at a recent British health congress.

MAEGRAITH, B. G. Some Controversial Aspects of Malaria Control. *J. Roy. San. Inst.* 70, 5:445 (Sept.), 1950.

Plain Words — As a rule, official health agencies have been unresponsive to changing health needs and not overwilling to give public support to those organizations that attempt to meet the new needs, says this observer who goes on to look at some of the changing conditions. When he is through with his story his accusation seems fair enough.

MOUNTIN, J. W. Organizing for the Newer Public Health Programs. *Pub. Health Nursing* 42, 10:562 (Oct.), 1950.

Trend of Times—Greater participation of the public in health affairs and greater professional participation in community affairs are both here to stay, opines the Surgeon General, who is glad of it.

SCHEELE, L. A. Looking Ahead with the Nursing Profession. *Am. J. Nursing* 50, 10: 631 (Oct.), 1950.

Theory vs. Practice — Mental hygiene can make as much progress as physical hygiene if public health officers will also become officers of public mental health alleges the writer of the first of two British papers. We attempted a psychiatric social service with discouraging results, reports the second writer.

TORRIE, A. Preventive Psychiatry (and) CRONK, H. L. The Hampshire Preventive Mental Health Scheme. *Pub. Health* (Br.) 63, 12:231 (Sept.), 1950.

Public Health in Foreign Periodicals

GEORGE ROSEN, M.D., PH.D.

HERETOFORE, Austria has received little attention in this column. The recent reappearance of the *Mitteilungen der Österreichischen Sanitätsverwaltung*, public health organ of the Austrian Government, provides an appropriate occasion to glance at some items of current interest in that country.

BCG VACCINATION IN AUSTRIA [1]

As in so many other countries at present, tuberculosis is an important public health problem in Austria. Among the measures employed to deal with this problem is BCG vaccination. In February, 1949, the Austrian Government passed a law regulating the use of this procedure. Kaiser and Puntigam discuss this law.

The Austrian health authorities had become interested in BCG soon after Calmette announced the results of his researches. Preliminary studies were undertaken in 1926, 1928, and 1931. Unfortunately, however, the Lübeck accident brought these efforts to a standstill, and it was not until 1941 that interest in the subject again revived. Following the termination of hostilities in Europe, it was felt that BCG was needed to help combat the increase in tuberculosis morbidity.

The law passed in 1949 provides for BCG vaccination on a voluntary basis, and with the authorization of the legal guardian in the case of minors and other legal wards. Vaccination is recommended in general for medical personnel employed in hospitals, sanatoria or by medical practitioners; and for children and young people up to the age of 18. It is recommended specifically for persons exposed to individuals with communicable tuberculosis. Only physicians empowered to do so by the Federal Ministry of Social Administration may perform BCG vaccination. All persons who have been inoculated must be examined again after 8 weeks. After ascertaining the result of the vaccination, a certificate must be issued by the examining physician. The law states that only a tuberculin accepted by the Ministry of Social Administration and a BCG vaccine produced by the Federal Serum Institute (Bundesstaatlicheimpfstoffgewinnungsanstalt) may be used.

The authors reprint the forms that are employed. Records of vaccinated persons are to be filed at the Health Office of the person's residential district. The reason for this is the desire to recall the vaccinated person for examination after 3 years. Finally the authors describe the laboratories where the BCG vaccine is produced.

HEALTH LEGISLATION IN THE SECOND AUSTRIAN REPUBLIC [2]

At the end of World War II the Austrian public health authorities in the Ministry for Social Administration were faced with the difficult task of creating a new public health code adapted to post-war conditions. Complicating the situation was the fact that during their occupation of Austria the Germans had applied many of their laws and decrees to the country. At the same time they had never actually repealed many of the health laws passed by the first Austrian Republic. Furthermore, many of the German laws were permeated by National-socialist ideology.

Strobl discusses the various measures taken to create and implement a new public health code. Among the items mentioned is the Venereal Disease Law

of August 22, 1945. Persons infected with a venereal disease (gonorrhea, syphilis, lymphogranuloma inguinale, and soft chancre) are obliged to submit to treatment as long as the infection is transmissible. Physicians are obliged to report all cases of transmissible venereal disease to the local health authority. A person with a venereal disease who knowingly transmits the infection to another person is subject to legal sanctions.

Another law intended to prevent the transmission of such communicable diseases as typhoid, dysentery, and so forth, deals with persons who are carriers. Such persons are prohibited from working in factories and other establishments manufacturing and distributing foodstuffs for human consumption. Only when such individuals have submitted to a bacteriological, serological, and x-ray examination, and it has been shown that they do not represent a danger to consumers or to their fellow employees may they be employed.

Other laws deal with narcotics control, drug inspection, and related subjects.

Of considerable interest is the action taken with respect to non-medical healers. The Germans had introduced their legislation permitting so-called healers (Heilpraktiker) to accept patients. This as well as other laws regulating midwives and pharmacists have now been revoked, and the Austrian laws previously in existence have been restored with such changes and additions as are necessary to bring them up to date. Thus only practitioners trained in recognized medical schools may treat patients. All other so-called healers are to be treated as quacks. A special law was passed in 1948 permitting Austrians who had become dentists during the period 1938–1945 to continue the exercise of their profession. In 1949, legislation was passed regulating the practice of medicine. An internship was made obligatory, and physicians receiving such postgraduate training in hospitals are to be paid.

In general, the Austrian public health law is being simplified and modernized. Since the end of the war 170 obsolete and otherwise unsuited German and Austrian health laws and regulations have been replaced by 14 modern laws and 30 regulations. This legislative activity is continuing.

CANICOLA FEVER IN AUSTRIA [3]

Puntigam and Till discuss the cases of *L. canicola* infection reported to Austrian health authorities between 1948 and 1950, which were verified serologically. In all there were 21 cases (10 men, 11 women). The cases were reported chiefly from the provinces of Carinthia, Lower Austria, Upper Austria, and Vienna. There were no deaths. The authors discuss the symptomatology of *Leptospira canicola* infection in dogs and the epidemiology of the disease with relation to human cases. The disease has a seasonal incidence, occurring chiefly during the late summer and autumn months. The reservoir of infection is to be found in the dog, and the infective organism may be transmitted not only by sick animals but also by healthy dogs that are carriers. It does not appear that there is a direct transmission from the sick animal to human beings. The reported Austrian cases do not permit any calculation of the incubation period.

MEDICAL EDUCATION IN SPECIAL FIELDS

Austrian health officials are keenly aware that many of the problems they face can be dealt with adequately only if the medical profession is properly trained. Reuss [4] presents this viewpoint with regard to infant mortality, indicating that the inadequate training of physicians is in part responsible for the high infant mortality. Furthermore, the problem is complicated by a maldistribution of pediatric specialists, most of

whom are in Vienna and other large cities. There is an almost complete lack of pediatricians in smaller cities and rural areas. Reuss emphasizes the need for remedial action.

Murgel [5] discusses the place of social medicine in the education of the physician. After tracing the fluctuating fortunes of the subject in Austria from 1909 to the present, he urges the need for developing it further in medical training.

PUBLIC HEALTH ORGANIZATION IN SCANDINAVIA

Another area of Europe which deserves a good deal of attention is Scandinavia. A brief survey of public health organization in Denmark, Norway, and Sweden will serve as an introduction to topics currently under discussion.

Public health organization in Denmark dates back to 1740, although its modern history began with a reorganization carried out in 1914.[6] The country with its four million people is divided into 22 regional areas and these again into 68 sanitary districts corresponding to the police districts. Each district has a public health officer and so has each regional office. The regional health officer supervises the district physicians, while he in turn is responsible to the central public health administration, which is a division of the Ministry of the Interior. The central public health administration is responsible for seeing that all laws and regulations pertaining to health are carried out. It also supervises physicians, dentists, midwives, pharmacists and hospital personnel, and undertakes such measures as may be necessary to improve the health status of the country. Connected with the central public health organization are a statistics bureau and numerous laboratories which are also in part institutes of the University of Copenhagen. The regional health officer is a member of the local health commission, and in maritime towns of the quarantine commission. He inspects dairies, factories, schools, and food handling and distribution. The district officer deals with hospital problems in his locality, supervises the work of the midwives, acts as consultant in school construction, and inspects pharmacies. Medical practitioners carry out certain public health duties locally, such as antepartum care, the care of well children between the ages of 1 and 7, the supervision of the health of school children and anti-diphtheria inoculation.

In Norway the first city health department was established in 1906 in Bergen.[7] By 1912, Norway had 154 health officer posts. The administration of public health services is based on a law enacted on July 26, 1912. At present there are 12 chief health officer posts in city health departments, 18 county health office positions, 23 city health office positions, and 364 local posts. In addition to the law of 1912, public health administration is also governed by a law of 1860, which states that each community must have a board of health. The local health officer is *ex officio* president of the board, and in cities a number of local heads of other services are *ex officio* members. Interestingly enough, at least one member must be a woman. County and local health services are organized so as to be directed by a health officer. Since July 1, 1948, more and more health officers have gone on a full-time basis. The chief activities of the health officer are concerned with the effective control of tuberculosis and other communicable diseases, health examinations of large population groups, effective health control of the production and distribution of food products, environmental sanitation including provision for better housing and improved water supply, and last but not least health education.

In Sweden most medical officers are appointed by the central government, a

few by local communities.[8] All medical officers are qualified physicians with a certain amount of postgraduate training in hospitals. Their chief duty is to provide general medical care within a certain district, and for this they receive a salary from the government as well as a fixed fee from the patient. They provide free medical care to patients with venereal and epidemic diseases. The medical officer inspects hygienic conditions in his district and acts as adviser to the local public health authorities. In this connection the medical officer is also engaged to a considerable degree with preventive medical work in such groups as pregnant women, infants, and preschool children and school children. He is also concerned with tuberculosis prevention.

(In our next column we shall deal with topics of current interest in the Scandinavian countries.)

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3. Puntigam, F., and Till, F. Über Canicola fieber in Österreich, *Mitteilungen der österreichischen Sanitätsverwaltung* 51:41–43, 1950.
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5. Murgel, E. Die soziale Medizin als Unterrichtsfach in der ärztlichen Ausbildung, *Mitteilungen der österreichischen Sanitätsverwaltung* 51:73–76, 1950.
6. Jakobsen, J. Det danske embedslaegvaesens organisation, *Nordisk Hygienisk Tidskrift*, No. 11, 1949, pp. 283–295.
7. Gjølberg, J. Kort Orientering om det offentlige legevesen i Norge, *Nordisk Hygienisk Tidskrift*, No. 11, 1949, pp. 296–309.
8. Trotzig, R. Den svenske tjänsteläkarens och hans arbetsuppgifter, *Nordisk Hygienisk Tidskrift*, No. 11, 1949, pp. 310–317.

From left—George K. Strode, M.D., who accepted the award for the International Health Division of the Rockefeller Foundation; George Wells Beadle, M.D., Chairman of the Division of Biology, California Institute of Technology; Mrs. Albert D. Lasker, of the Lasker Foundation; Eugene L. Bishop, M.D., Director of Health and Safety, Tennessee Valley Authority; and George Papanicolaou, M.D., Cornell Medical College, New York City.

THE LASKER AWARDS FOR 1950

1950 marks the fifth annual presentation of the Lasker Awards by the American Public Health Association. The Lasker Awards are provided by the Albert and Mary Lasker Foundation of New York through the Association to individuals and groups for outstanding contributions in research related to diseases which are the main causes of death and disability, and for distinguished service in the field of public health administration.

The awards were conceived not only to honor the recipients and dramatize their accomplishments but also to arouse increased professional and public interest in medical research and public health administration and to aid in the rapid dissemination of vital new health information to the peoples of the earth.

In the five years since their establishment, the Lasker Awards have come to be regarded among the nation's primary medical honors.

Although heredity and environment are the determinants of public health, the great advances in the science of public health have in the past been based chiefly upon the control of environmental factors. In the field of heredity, knowledge of the functions of chromosomes and their constituent genes has elucidated the transmission of morphological changes from generation to generation. However, the basic chemical mechanisms of heredity variation have remained wholly obscure until the past decade.

During this decade, GEORGE WELLS BEADLE, M.D., Chairman of the Division of Biology at the California Institute of Technology, together with his associates, has for the first time cast light upon this fundamental chemical problem. Professor Beadle, turning away from classical approaches to genetics, became concerned with the effects of changes produced experimentally in genes upon specific metabolic activities in the cell. Employing as an object of study the common mold Neurospora, he has demonstrated that each of the indi-

vidual biochemical reactions of the cell is governed by a particular gene. Consequently, the loss of this gene is followed by the hereditary transmission to subsequent generations of a characteristic disturbance of metabolic activity.

Fulfillment of the implications of these pioneer studies will undoubtedly lead to an understanding of human constitution as related to the vital problems of host resistance and susceptibility in both metabolic and infectious disease.

For his outstanding and fundamental contributions to the understanding of genetic control of metabolic processes, the American Public Health Association presents a 1950 Lasker Award to Dr. George Wells Beadle.

The career of EUGENE L. BISHOP, M.D., is noteworthy for its individual episodes of specific success. Even more, it is esteemed because it encompasses a lifetime of talented leadership and progressive achievement in the advancement of public health administration. His leadership in his home state and region has been observed and commended by public health leaders from all parts of the world.

For three and a half decades Dr. Bishop has devoted himself to the ideal of efficient health service for all people. As State Health Officer of Tennessee he developed a coördinated state-wide system of public health activities with sound professional and financial policies, and he pioneered in organized staff training for local health departments. He directed successful attacks against numerous health and sanitation deficiencies of which the extraordinary reduction in endemic malaria is one example. As Director of Health and Safety of the Tennessee Valley Authority he has made further important advances in a broad program among which the study and engineering control of impounded waters to reduce endemic malaria is recognized as a brilliant contribution.

Throughout his career Dr. Bishop has demanded facts to serve as a basis for administrative action and has sponsored comprehensive field survey and research studies for this purpose. The American Public Health Association is honored to present to Dr. Bishop a Lasker Award for 1950 in recognition of his outstanding contributions in the field of public health administration.

GEORGE PAPANICOLAOU, M.D., is presented a Lasker Award for 1950 for his outstanding contributions to research related to cancer, a prominent cause of death and disability. His discovery is of a method for defining, among the cells exfoliated from tissue surfaces, those which reveal the changes characteristic of specific biological processes. Among these is the one we know as neoplastic disease. The importance of exfoliative cytology has been amply established as providing a relatively quick, easy and accurate test of at least partial diagnostic value for cancer of some types. Less obvious, but equally meaningful, are certain research suggestions capable of being drawn from these data.

It seems not impossible that repeated observations using this cytological method will reveal the earliest changes of cancer. These changes, when regularly demonstrable, may provide an index of the effectiveness of procedures designed to restore pre-neoplastic cells to normal. This makes feasible for the first time a study of cancer prevention in human beings. The examination of desquamated cells provides a method for measuring precisely a variety of biological phenomena, particularly those resulting from hormone activity. By the application of this measure new information unavailable by any other means has come to hand. From the evidence more may be expected in the future.

The work recognized by this Award provides once more evidence that knowledge tends to increase almost linearly with the availability of quantitative technics. They are the extension of the

perceptive mechanism of the investigator. Without perception concept is difficult, if not impossible.

THE INTERNATIONAL HEALTH DIVISION OF THE ROCKEFELLER FOUNDATION has for about a third of a century been a pioneer, a leader, and a catalyst in the development of measures for improvement of health throughout the world.

Among its many achievements may be numbered some of the most significant advances in the control of infectious diseases in the history of medicine and public health; the demonstration of the means of controlling hookworm in the Southern United States and in foreign lands; the detailed studies of the epidemiology of yellow fever, leading to a completely new concept of the problems of eradication; the development of yellow fever vaccine and demonstration of its efficacy as a means of control or possibly eradication of insect-borne disease. Any one of these achievements might well merit national or international recognition.

But perhaps of even farther-reaching benefit to humanity, the International Health Division, more than any other single agency, has stimulated the elevation of general health standards through its support of education and training of health workers. The Foundation, largely through the International Health Division, has been responsible for the creation and support of schools throughout the world, and through its fellowship program has provided the opportunity for training for thousands of health workers.

In recognition of these and other outstanding achievements, the American Public Health Association has selected the International Health Division of the Rockefeller Foundation as the recipient of its 1950 Lasker Group Award.

ASSOCIATION NEWS

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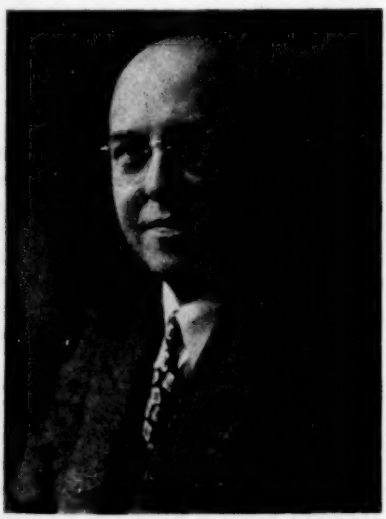
William P. Shepard, M.D., President of the American Public Health Association

William P. Shepard, M.D., of San Francisco, Calif., Third Vice-President and Pacific Coast Welfare Director, Metropolitan Life Insurance Company, assumed the Presidency of the Association at the close of the 78th Annual Meeting in St. Louis, Mo., on November 3 having served as President-Elect since 1949.



William P. Shepard, M.D.

Dr. Shepard, who is a native of Iowa, was graduated with honors in medicine from the University of Minnesota, M.B., 1921, M.D., 1922, and received the M.A. degree, majoring in public health, from the same university in 1924.

Dr. Shepard's sustained interest in public health has been manifest since his graduation in medicine. He served as Assistant Medical Director of the Student Health Service, University of Minnesota, 1921–1924, during the last three years of which he was Instructor in the Department of Preventive Medicine and Public Health of the School of Medicine. In 1925–1926 he was Medical Director of the Berkeley, Calif., Health Center and Health Officer of the City of Berkeley, as well as Director of Health and Development of the Berkeley Public Schools. His connections with Stanford University Medical School, San Francisco, began in 1928 with an appointment

as Lecturer in Industrial Hygiene which was followed in 1932 by his appointment as Clinical Professor in the Department of Public Health and Preventive Medicine. He has been identified at various times with the University of California as Lecturer. Since 1926 Dr. Shepard has been with the Pacific Coast Head Office of the Metropolitan Life Insurance Company, in charge of the health and welfare services, in which capacity he now serves as Third Vice-President.

Among the manifold voluntary responsibilities which Dr. Shepard has carried there are the Presidency of the California Tuberculosis Association, 1943–1944; Vice-President, California Social Hygiene Association, 1942–1945; public health representative of the Ninth Service Command Area, War Manpower Commission, Procurement and Assignment Service for Physicians, World War II; a founder and first Secretary of the Western Branch, A.P.H.A., 1928–1939; President of the Western Branch, 1940–1941. Dr. Shepard's service as Chairman of the standing Committee on Professional Education, A.P.H.A., for ten years beginning in 1939 was recognized in a special resolution by the Executive Board, A.P.H.A. (*A.J.P.H.*, July, 1950, p. 896).

For many years Dr. Shepard has been identified with the National Tuberculosis Association as Director at Large and served as President in 1946–1947. He is identified with the American Medical Association, the American Association for the Advancement of Science, the California Academy of Medicine, and the California Heart Association. Most recently he has become a member of the Health Resources Advisory Committee to the National Security Resources Board, Washington, under the Chairmanship of Howard Rusk, M.D., of New York. Dr. Shepard represents the field of public health in this Advisory Committee which advises the N.S.R.B. and the Selective Service System.

In addition to his work as an administrator of health departments, as a teacher of public health, and in multiple voluntary agency posts, Dr. Shepard has found time to make many contributions to scientific literature, being especially well known in the field of professional education in health. Dr. Shepard is the author of the volume *Essentials of Public Health*.

SEDGWICK MEMORIAL MEDAL TO DR. DYER FOR 1950

THE Sedgwick Memorial Medal was presented on behalf of the Association on November 2, 1950, by Abel Wolman, Dr.Eng., of Johns Hopkins University, Baltimore, Chairman of the Sedgwick Memorial Committee, to Rolla Eugene Dyer, M.D. In his presentation, Dr. Wolman gave the following citation:

"The American Public Health Association has the honor to present to you the 1950 Sedgwick Memorial Medal commemorating the life and services of William Thompson Sedgwick as it symbolizes your own distinguished achievements in public health.

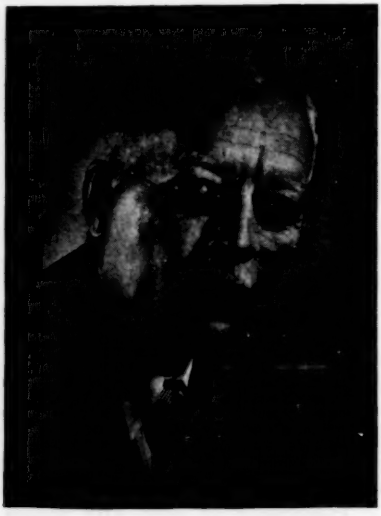
"In your career of 34 years in the Public Health Service you have given an example of public service which we may properly celebrate. A nation is strong in proportion to the extent that it is served by selfless servants of the common good who give their best in public service irrespective of higher rewards which they might easily secure for themselves.

"The National Institutes of Health are so completely identified with your career that it is hard to think of them under any previous leadership; yet in this series of recipients of the Sedgwick Memorial Medal of which you are number twenty, there are two former direc-

tors of the National Institutes in its earlier day—Drs. McCoy and Rosenau—and at least three other persons closely identified with the work of the Institutes—Wade H. Frost, Thomas Parran, and Charles Armstrong.

"In the last eight years during which you have been director of the National Institutes of Health you have notably expanded the intramural research program to include substantial attacks on the growing problem of chronic, crippling, and killing diseases. By your own scientific ability and your leadership you have linked the great men and the great accomplishments of the past, the present, and the future of the Institutes in one unbroken line of outstanding service to public health.

"It is well for the public to know to what a large extent it is indebted to you for your own research on infectious diseases, particularly those which are caused by viruses and by the closely related rickettsial organisms. As a member of the NIH research team which first proved that Rocky Mountain spotted fever is widespread in many tick-infested areas east of the Rocky Mountains, you made a fundamental contribution. It is appropriate that you should already have received wide acclaim for discovering that a newly recognized disease in this country was identical with Australian Q fever, since which time this disease has been identified in many parts of the world. The fact that you have proved that endemic typhus fever in this country is transmitted from rats to man by fleas would have been in itself an important discovery, but you have gone beyond that in developing a vaccine against this disease so that during the last three decades the entire foundations of our knowledge of this infection have been changed. If other proof were needed of your success in dealing with these diseases, the fact that you have contracted laboratory infections yourself from typhus fever, Q fever, and erysipelas should be sufficient proof!



Rolla Eugene Dyer, M.D.

"The growth of the National Institutes of Health since you first became identified in 1921 with its forerunner, the Hygienic Laboratory, reflects your own contributions as well as those of your associates. This has become one of the world's outstanding institutions for coordinated research in virtually all the important diseases suffered by mankind. The recent decisions by the Congress to establish special institutes to conduct research into the cause, treatment, and prevention of heart disease, mental disease, dental disease, neurological diseases, and blindness, as well as in arthritis, rheumatism, and metabolic diseases, reflects the public confidence which underlies the Institutes' work under your direction.

"The development of an extensive program through which financial assistance has been given to scientists and to scientific institutions by means of fellowships and grants has already been recognized by the Association through a Lasker Award.

"The Association wishes you well as you go to Emory University as Director of Research, to occupy a position of university-wide importance in the correlation and coördination of research projects.

"It is now almost a full generation in science since William Thompson Sedgwick passed from the earthly scene. The Association values highly the opportunity through recognition of your excellence to keep alive in another generation an understanding of what Professor Sedgwick meant to public health."

Dr. Dyer in accepting the Award, made the following response:

"It is with great pride and humility that I accept today this significant emblem which commemorates the name of Professor William T. Sedgwick. As a pioneer in a field which had not yet been awakened to its full potentialities, Professor Sedgwick forged ahead, driven by a knowledge of the needs of his day and a faith in his methods and his fellowmen. He was one of the first to introduce bacteriologic ideas into the United States; and to apply these ideas to public health problems. Since his time a good many diseases such as typhoid fever, malaria, tetanus, diphtheria, and smallpox have virtually ceased to menace our population. Modern methods, new therapy and new sanitary techniques are but a few of the advancements which have done much to minimize their threat. And, although we have controlled many of the infectious diseases, we have only scratched the surface. A great deal more basic research must yet be done. Meanwhile, we face even greater foes in the chronic diseases, cardiovascular, cancer, mental, and dental diseases, as well as the degenerative diseases which attack our aging population.

"Fifty years ago Professor Sedgwick defined his theory of public health as being 'the science and the art of conserving and promoting better health for our people. It has as its function the prevention of premature death and the promotion of normal life, health, and happiness by eliminating unfavorable environmental conditions common to many persons or communities either at one time or at different times.'"

Public health methods have indeed come a long way since he first defined these basic principles. While the philosophy and policies have remained the same, the American Public Health Association, by means of its expanding programs in medical services and education, has developed far beyond Professor Sedgwick's fondest dreams. A chief responsibility of the Association will be to maintain and extend its position as one of the world's outstanding contributors to the preservation of health. To that end, the Public Health Service, reflecting Professor Sedgwick's principles, has dedicated its efforts to their accomplishment.

As the research arm of the Public Health Service, the National Institutes of Health has emphasized the need for basic research at a time in our history when constant vigilance and continued progress are essential to the nation's security. Its intramural research as well as its research grants, fellowships, and control programs have assumed new importance to our national strength.

The work of the Institutes has been extended into nearly all fields of medical research by an ever-increasing number of scientists whose efforts have carried them all over the world. As director of the National Institutes of Health for eight years, and before that as a researcher on the bench, I had the privilege to witness the growth of the Institutes from less than 150 workers to a present total of three thousand. At the same time its annual budget grew from a mere three and a half million dollars to its present program which entails the expenditure of some fifty million dollars a year in the operation of grants,

training programs, etc. And in the immediate future a still greater expansion will come with the construction of the Clinical Center where laboratory and clinical research will work together.

Today, as we stand at the threshold of great progress in research, we begin to realize some of the hopes and aspirations outlined by Professor Sedgwick many years ago.

In receiving this award, I feel particularly honored to be recognized along with those men in public health for whom I have profound admiration. I refer to the nineteen previous recipients of this award beginning with Charles Chapin, 1929, and extending through last year's recipient, Henry Vaughan.

I shall cherish this medal as a symbol of the faith of a great humanitarian and a beloved teacher, William Thompson Sedgwick.

RESOLUTIONS

The following Resolutions were unanimously adopted by the Association at the Seventy-eighth Annual Meeting in St. Louis, Mo., November 1, 1950.

1. APPRECIATION TO EXHIBITORS

RESOLVED that the American Public Health Association expresses its grateful appreciation to those who have presented at its Seventy-eighth Annual Meeting the excellent exhibits, both scientific and technical, which are of such great interest and value to the public health profession.

2. APPRECIATION TO THE PRESS

RESOLVED that the American Public Health Association acknowledges its indebtedness to the press, national, state, and local, for excellent service in carrying to the people of America the important events of the Seventy-eighth Annual Meeting.

3. APPRECIATION TO OFFICIALS AND GROUPS

RESOLVED that the American Public Health Association expresses its grateful appreciation to the St. Louis Committee and the agencies represented thereon for their gracious hospitality, and be it further

RESOLVED that the warm thanks of officers and members be extended to J. Earl Smith, M.D., Chairman of the St. Louis Committee and his colleagues on the committee for their many courtesies, generous contributions of time and energy, and their efficiency in making provisions for this meeting and in the conduct thereof.

4. THANKS TO THE HOTELS

RESOLVED that the American Public Health Association expresses its appreciation to the Statler Hotel, the Hotel Jefferson, and all other St. Louis hotels that opened their doors to us for their valuable assistance in the conduct of the Seventy-eighth Annual Meeting.

5. THANKS FOR SPECIAL PRIVILEGES EXTENDED

Of unusual interest and value to the participants at this Seventy-eighth Annual Meeting have been the many opportunities to see at first hand many of the scientific and industrial features of the St. Louis area.

RESOLVED that the American Public Health Association expresses its sincere thanks to the agencies of St. Louis, and to those industrial organizations that made their services available for the special benefit of our members.

6. IN MEMORIAM

RESOLVED that it is with a sense of irreparable loss that the American Public Health Association records, since its last Annual Meeting, the death of 82 Fellows and members, whose names constitute a part of this resolution.

Deceased Members and Fellows November, 1949, through October, 1950.

NAME	MEMBER	FELLOW
C. F. Adams, M.D., Jefferson City, Mo.	1927	1930
Charles C. Agar, Albany, N. Y.	1950	
Owen F. Agee, M.D., New Orleans, La.	1947	
F. Kenneth Albrecht, M.D., Dalton, Mo.	1945	
Robert McD. Allen, Newark, N. J.	1935	
George E. Atwood, M.D., D.P.H., Waycross, Ga.	1946	
Murray A. Auerbach, Indianapolis, Ind.	1919	
Charles J. Barone, M.D., Highland Park, Mich.	1947	
J. Howard Beard, M.D., Urbana, Ill.	1914	1923 Charter
C. F. Bolduan, M.D., Northport, L. I., N. Y.	1912	1922 Charter
F. Borges-Vieira, M. D., Dr. P. H. Sao Paulo, Brazil, S. A.	1918	1949
Ann Dickie Boyd, R.N., Denver, Colo.	1924	1942
Henry E. Breedlove, Mobile, Ala.	1942	1948
John N. Buker, D.V.M., Bath, Ohio	1947	
W. J. Cleveland, M. D., Tupelo, Miss.	1935	
John A. Conway, M.D., Hornell, N. Y.	1914	1922 Charter
Juan A. Cosculluela, Havana, Cuba	1927	
A. Barklie Coulter, M.D., Washington, D. C.	1936	1947
M. J. Cuen, M.D., Galveston, Tex.	1949	
A. Clinton Decker, Birmingham, Ala.	1911	1927
Albert K. Epstein, Chicago, Ill.	1921	1923 Charter
Alexander Fleisher, Ph.D., Churchville, Pa.	1919	1923 Charter
Arthur A. Fleisher, Philadelphia, Pa.	1929	
George B. Foster, Jr., M.D.., Dr. P. H., Cambridge, Mass.	1949	
Thelma Foster, New York, N. Y.	1946	
Catherina A. Gaffney, New York, N. Y.	1944	
Dr. Luis Gaitan, Guatemala City, C. A.	1933	
C. W. Gerber, M.D., Las Cruces, N. M.	1920	1923
John M. Glenn, New York, N. Y.	1919	
Edward J. Godfrey, M.D., M.P.H., Waterbury, Conn.	1926	1942
George R. Good, M.D., M.P.H., Altoona, Pa.	1942	
Raymond F. Goudey, Glendale, Calif.	1934	1944
Mary Gover, D.Sc., Silver Spring, Md.	1935	
Margaret E. Graff, Albany, N. Y.	1939	
Margaret W. Higginbotham, Sc.D., South Bend, Ind.	1938	1943
G. Everett Hill, Orange, N. J.	1897	1923
Lt. Col. A. Parker Hitchens, Philadelphia, Pa.	1907	1922 Charter
James Spencer Hough, M.D., Montgomery, Ala.	1920	1923 Charter
Tipton M. Jolliffe, M.D., Larchmont, N. Y.	1940	1945
Leon R. Kramer, M.S.P.H., D.D.S., Topeka, Kans.	1937	1942
George C. Kuesel, M.D., Philadelphia, Pa.	1913	
Margaret C. Lafferty, Washington, D. C.	1945	
C. Sidney Leete, Loudonville, N. Y.	1940	
Rosco G. Leland, M.D., Chicago, Ill.	1916	
Walter A. Leonard, M.D., Cambridge, N. Y.	1920	1934
Alfred J. Lotka, D.Sc., Red Bank, N. J.	1926	1937
Marie Luckenbacher, Los Angeles, Calif.	1927	
Olga Martinez, M.S., Santurce, Puerto Rico	1947	
Frank E. McCord, M.D., Jacksonville, Ill.	1929	
Stuart McGuire, M.D., Richmond, Va.	1909	
Col. John W. Meehan, Washington, D. C.	1926	
C. W. Munger, M.D., New York, N. Y.	1926	
Charles A. Neal, M.D., Norwood, Ohio	1920	1928
Cyrus F. Newcomb, M.D., Champaign, Ill.	1946	
Rita A. Nielsen, R.N., Winfield, Ill.	1947	
Lloyd Noland, M.D., Fairfield, Ala.	1913	1922 Charter
Budd H. Obert, New Egypt, N. J.	1914	1923 Charter
Katherine E. Payne, R.N., Albany, N. Y.	1940	

NAME	MEMBER	FELLOW
Clyde Potts, New York, N. Y.	1907	
Sir Allan Powell, London, England		1931 Honorary
Robert E. Rhyne, M.D., Gastonia, N. C.	1929	
John E. Ransom, Atlanta, Ga.	1946	
C. O. Sappington, M.D., Dr. P.H., Chicago, Ill.	1920	1929
John B. Setzler, M.D., Spartanburg, S. C.	1930	
Loyal A. Shoudy, M.D., Bethlehem, Pa.	1925	1927
George A. Skinner, M.D., Berkeley, Calif.	1935	
Wilbert S. Slemmons, M.S., Oconomowoc, Wis.	1935	
F. DeWitt Smith, M.D., Guilford, Conn.	1927	
Lillian R. Smith, M.D., Harwich, Cape Cod, Mass.	1925	
William F. Snow, M.D., New York, N. Y.	1909	1922 Charter
Fredric W. Splint, M.D., New York, N. Y.	1946	
Dr. B. M. Stevenson, Camden, Ark.	1931	
Franklin D. Stewart, C.E., Columbus, Ohio	1946	
Lester Taylor, M.D., Cleveland, Ohio	1942	
Alec N. Thomson, M.D., Cutchogue, N. Y.	1922	1927
John A. Toomey, M.D., Cleveland, Ohio	1935	1938
Max Turtletaub, Charleston, S. C.	1945	
Arthur Weber, Long Island City, N. Y.	1937	
William R. M. Wharton, M.A., New York, N. Y.	1937	1940
Juliet A. Whitteker, R.N., Cape Cod, Mass.	1947	
William C. Woodward, M.D., Washington, D. C.	1896	1922 Charter
Chester W. Young, M.A., Washington, D. C.	1944	

7. FINANCIAL ASSISTANCE TO EDUCATIONAL INSTITUTIONS

WHEREAS, there is a critical need for additional support for existing educational facilities, and for the development of expanded or new facilities for the preparation of physicians, dentists, and other professional personnel in the health field, and

WHEREAS, there is a critical need for increased recruitment of competent persons to this field, therefore be it

RESOLVED: that the Governing Council of the American Public Health Association fully endorses the stand of its Executive Board in support of sound federal legislation to provide financial assistance to qualified educational institutions and to individuals through scholarships, and be it further

RESOLVED: that the Association direct its Executive Board to continue its efforts to achieve these urgently necessary objectives.

8. REHABILITATION OF THE CRIPPLED

WHEREAS, the American Public Health Association has recognized that public health workers have an interest in and responsibility for dealing with problems relating to or affecting the public health in their communities, thereby contributing to the conservation of human resources, and

WHEREAS, it has been recognized that in every community there are persons disabled as the result of chronic illness or of accidents, and whose disabilities present public health problems, and

WHEREAS, there have been developing rehabilitation services and facilities in many communities under the sponsorship of official and voluntary agencies, offering positive and effective means to enable disabled persons to be restored to the fullest physical, mental, social and economic usefulness of which they are capable, therefore be it

RESOLVED: that the American Public Health Association recognizes that the rehabilitation of disabled persons is a matter of concern to public health workers, and urges that public health workers interest themselves in the problems of disabled persons as they relate to the public health, and be it further

RESOLVED: that public health workers be encouraged to familiarize themselves and collaborate with rehabilitation services and facilities which are available, and to promote and support development of such additional rehabilitation services and facilities as may be needed in their communities.

9. CONTINUED SUPPORT FOR FEDERAL NUTRITION SERVICES

WHEREAS, nutrition services are an important function of health agencies in relation to the maintenance of health and the prevention of disease, and

WHEREAS, the United States Public Health Service and the Children's Bureau have pro-

vided desirable national leadership in this field in the areas of research studies and professional consultation, and

WHEREAS, the United States Public Health Service is being forced to terminate its activities in nutrition because of the withdrawal of funds by the Bureau of the Budget on the basis that the United States Department of Agriculture is performing work in this field, and

WHEREAS, the American Public Health Association believes that resolution of problems of human nutrition is assisted by activities of both health and agricultural groups, therefore be it

RESOLVED: that the American Public Health Association strongly urges upon the Bureau of the Budget and the Congress action to provide adequate funds for continuation of these essential services by the United States Public Health Service and the Children's Bureau.

10. WORLD HEALTH ASSEMBLY

WHEREAS, the World Health Organization, a specialized agency of the United Nations, is concerned with the solution of health and medical-social problems essential to the prosperity of nations and to the advancement of world peace, and

WHEREAS, the aims and objectives of the World Health Organization depend for their attainment on the widest possible understanding and support in all parts of the world, and

WHEREAS, the Constitution of the World Health Organization provides for the convening of annual assemblies in centers other than the headquarters of the organization, therefore be it

RESOLVED: that the American Public Health Association endorses the policy of holding occasional assemblies of the World Health Organization in different parts of the World, and be it further

RESOLVED: that the American Public Health Association urge the United States Government to invite the World Health Organization to hold one of its Annual Assemblies in the United States at an early date, and be it further

RESOLVED: that the United States Government be urged to facilitate such a meeting by offering financial assistance.

11. FLUORIDATION OF PUBLIC WATER SUPPLIES

WHEREAS, accumulated evidence indicates a sound basis for the fluoridation of public water supplies for the partial control of dental caries, therefore be it

RESOLVED: that this procedure be recommended as a safe and effective method for reducing the prevalence of dental caries.

12. PRIORITY FOR SANITATION CONSTRUCTION MATERIALS

WHEREAS, mobilization for defense places a new urgency on the conservation of water resources, the adequacy of which has been progressively deteriorated by pollution from municipal sewage and discharge of industrial wastes, and

WHEREAS, it is recognized to be in the national interest, as discussed before the Congress of the United States for many years and enunciated in Public Law 845, to promote pollution abatement measures because the welfare of the public and the expansion of industrial production are dependent on the preservation of water resources, and

WHEREAS, efforts of the state and of interstate health and regulatory agencies to control this pollution have been intensified in recent years, and

WHEREAS, after a delay of almost ten years because of World War II, projects have now advanced to the point where actual construction of long delayed treatment works is imminent, therefore be it

RESOLVED: that water supply, sewerage, and milk processing equipment and other related sanitation facilities be given a proper priority in event of federal priority controls.

13. UNIFORMITY OF VITAL STATISTICS DEFINITIONS

WHEREAS, there has been a lack of uniformity, nationally and internationally, in the definition of "stillbirth" and of "live birth," with a consequent lack of comparability of tabulations, among the various states of this country and among the countries of the world, and

WHEREAS, the Third World Health Assembly in May, 1950, adopted a report on the definitions of "live birth," "live born," and "fetal death," and on registration and tabulation of live births and infant deaths, as recommended by a special subcommittee of the Expert Committee on Health Statistics, therefore be it

RESOLVED: that the American Public Health Association endorses the definitions of "live birth," "live born," and "fetal death," and the recommendations on registration and tabulation of live births and infant deaths, as approved by the Third World Health

Assembly in May, 1950, and be it further

RESOLVED: that the American Public Health Association urges the early adoption by all appropriate state and local government legislatures and agencies of these definitions and recommendations.

14. PERSONNEL MERIT SYSTEMS

WHEREAS, the American Public Health Association and its Merit System Service have affirmed and reaffirmed their faith in a properly conceived and administered system of personnel administration and have urged federal, state, and local health officials to perfect and extend these systems, and

WHEREAS, many such systems came into being and have operated effectively for 10 years as a result of the merit system amendments to the Social Security Act and have been further promulgated by the regulations of the U. S. Public Health Service, and

WHEREAS, the Council of State Governments, in its report to the Hoover Commission, stated that "the national emphasis on personnel supervision has resulted in a generally high caliber of administration," therefore be it

RESOLVED: that the American Public Health Association continues to urge the development and the extension of sound practices of personnel administration on a merit basis, and be it further

RESOLVED: that public health officials and other officials concerned with the implementation of these principles be urged to initiate and continue studies designed to evaluate the effectiveness of such merit systems in recruiting, selecting, and maintaining public health personnel of the highest caliber.

15. TUBERCULOSIS AMONG AMERICAN INDIANS

WHEREAS, tuberculosis among American Indians in this country continues to be a serious and dangerous public health problem both for the Indians and the rest of our population, and

WHEREAS, knowledge is available for the construction of a sound public health program which can solve this problem, therefore be it

RESOLVED: that the American Public Health Association urges the agencies concerned to plan and put into effect such a program and urges upon the Congress appropriation of sufficient funds to accomplish this purpose.

16. LOCAL HEALTH UNITS BILL

WHEREAS, The American Public Health Association, in coöperation with the other major professional associations in the health field and with many other well informed groups, has strongly urged the adoption of federal legislation providing for financial support in the development of essential full-time local health services and has placed before Congress complete documentation of this need, and

WHEREAS, the immediate development of such services is not only requisite to the safeguarding of the health of the nation in normal peacetime but is given even greater urgency by the current demands for the establishment of adequate civilian defenses against possible acts of aggression, including atomic, biological, chemical, and other devices of warfare directly affecting the civilian population, therefore, be it

RESOLVED: that the American Public Health Association urges the Congress and, in particular, the House Rules Committee, to act immediately and favorably upon bill H. R. 5865, known as the Local Health Services Act, as a matter of primary importance to the health and security of the nation in these critical times.

17. DISTRIBUTION OF MEDICAL SERVICES

WHEREAS, the need of the armed forces for physicians, dentists, and veterinarians has brought about an unprecedented demand upon a particular group, and

WHEREAS, present uncertainty has put pressure on all to apply for commissions despite the fact that only a proportion will be called to active duty this year, resulting in inequality of call upon certain civilian agencies, and

WHEREAS, through proper advance planning and balanced withdrawal of personnel, the needs of the armed forces can be met without complete disruption of the services of hospitals and health agencies, therefore be it

RESOLVED: that the American Public Health Association urges the President and the Secretary of Defense to expedite completion of such a plan in order to equalize the drain on civilian agencies, in consideration of local health needs.

18. SUPPORT OF FEDERAL HEALTH ADVISORY COMMITTEES

WHEREAS, the President of the United States has established the office of Health Resources at top level and has appointed a broadly representative Advisory Committee on Health, the members of which have also been appointed to the Advisory Committee to the National Selective Service System, and

WHEREAS, the Inter-Association Committee on Health, consisting of the six major professional organizations in the health field, has recorded its approval of these actions of the President, therefore be it

RESOLVED: that the American Public Health Association concurs in this action of the Inter-Association Committee on Health, and be it further

RESOLVED: that the American Public Health Association offers these recently constituted national advisory committees its continuing assistance on matters related to the civilian defense, and be it further

RESOLVED: that the American Public Health Association urges that the information necessary for the protection of the health of the civilian population by the constituted health authorities be made available to them as rapidly as is consistent with the national security.

19. POLICY ON MEDICAL CARE IN A NATIONAL HEALTH PROGRAM

WHEREAS: In 1944 the American Public Health Association issued an official statement of policy on "Medical Care in a National Health Program," and

WHEREAS: The Association in its statement of policy placed the major emphasis on the needs of the population and the importance of meeting those needs with a high quality and an adequate quantity of medical care; and

WHEREAS: The Association wishes to reaffirm and clarify the purpose and meaning of its 1944 Statement and to clarify its present position; now, therefore, be it

RESOLVED: 1. That with respect to that segment of the public health field having to do with medical care, the Association reaffirms its position that its primary interest is with the ready availability of a high quality and adequate quantity of medical care for the people;

2. That the Association recognizes the intricacy of the problem of financing a high quality and adequate quantity of medical care and has not advocated and does not now advocate any one method of financing.

3. That no method of financing yet proposed by the Congress or elsewhere will *per se* assure a high quality and adequate quantity of medical care.

4. That regardless of the methods of payment, medical services must be adequately and securely financed, with due regard to ethical, professional, and administrative requirements;

5. That the Association continue its objective studies of medical care programs of all kinds, revising its statements of policy from time to time as sound information and experience accumulate;

6. That the Association urges all agencies, organizations, and individuals concerned with medical care problems to exchange views and experience and to pool their knowledge, their resources and their efforts to the end that the best possible medical care for all the people may ultimately be developed under the conditions that prevail in the United States.

APPLICANTS FOR MEMBERSHIP

The following individuals have applied for membership in the Association. They have requested affiliation with the sections indicated.

Health Officers Section

Ernesto A. Balla, M.D., 508 Purchase St., New Bedford, Mass., Health Officer, New Bedford Board of Health

Irving M. Cleghorn, M.B., D.P.H., 320 Sherbrook St., Winnipeg, Man., Canada, Director, Local Health Services, Dept. of Health and Public Welfare

Linley Henzell, M.D., D.P.H., Public Health Dept., 57 Murray St., Perth, Western Australia, Commissioner of Public Health

Robert W. Jessee, M.D., Health Dept., Galax, Va., Health Officer, Carroll-Grayson Health District

William J. McAnally, Jr., M.D., Arsenal District Dept. of Public Health, 40th St. & Penn. Ave., Pittsburgh 24, Pa., District Health Officer

Lt. Colonel Philip M. Nabbe, M.C., Quarters 62D, Fort Belvoir, Va., Chief, Out-Patient Service, U. S. Army Hospital

Arthur B. Price, M.D., M.P.H., 3715 Stoer

Rd., Shaker Heights 20, Ohio, Regional Medical Director, F.S.A., U.S.P.H.S.

Laboratory Section

Beatrice H. Allison, M.T., Niagara Sanatorium, Lockport, N. Y., Chief, Laboratory Technician

Henry Bauer, Ph.D., 926 Fulton St., S.E., Minneapolis, Minn., Director of Laboratories, Minnesota Dept. of Health

Harry Eagle, M.D., National Institutes of Health, Bethesda 14, Md., Chief, Section on Experimental Therapeutics, Microbiological Institute

Matthew C. Hunter, Ph.D., 1530 Spring Garden St., Philadelphia 1, Pa., Senior Bacteriologist, Smith, Kline & French Laboratories

Kenneth O. Jaegge, 20-30 Grove St., Brooklyn 27, N. Y., Junior Bacteriologist, New York City Dept. of Health

James Nikitas, 92 St. James Place, Brooklyn 5, N. Y., Junior Bacteriologist, New York City Dept. of Health

Ryan Pierson, State Public Health Laboratory, Albuquerque, N. M., Senior Bacteriologist, Serologist, New Mexico State Public Health Mobile Laboratory

Gloria E. Smith, 789 E. William, San Jose, Calif., Technician, San Jose Clinical Laboratories

Statistics Section

Leo A. Ozier, 3230 Palmer, Springfield, Ill., Vital Statistics Registrar, Illinois Dept. of Public Health

Catherine P. Powell, 248 Fredrica St., Jackson, Miss., Junior Statistician, Mississippi State Board of Health

Clarence J. E. Robinson, State of New York Insurance Dept., 180 W. 135th St., New York 20, N. Y., Assoc. Insurance Examiner

Engineering Section

Roderic T. Antrim, 1412 Pine Ave., Manhattan Beach, Calif., Field Engineer, Pacific Coast Clay Products Institute

Albion A. Bailey, 4001 Hillen Road, Baltimore 18, Md., Senior Assoc. Engineer, City of Baltimore, Bureau of Water Supply

Ben K. Bare, 584 E. Broad St., Columbus, Ohio, Partner, Burgess and Niple, Engineers

John A. Bellizia, M.S., 511A State House, Boston, Mass., Senior Sanitary Engineer, Massachusetts Dept. of Public Health

John R. Birch, 430 W. Walworth St., Elkhorn, Wis., Civil Engineer, Jensen & Johnson

Edmond W. Bowler, 12 Woodman Ave., Durham, N. H., Professor and Head, Civil Engineering Dept., Univ. of New Hampshire

Benjamin Buchalter, 1033 N. 8th St., Richmond, Calif., Student, Univ. of California

Edmund T. Carey, 62 Kimberly Ave., Springfield 8, Mass., Senior Civil Engineer, Metropolitan District Commission

Robert L. Caviness, M.S., 2404 White Oak Road, Raleigh, N. C., Principal Sanitary Engineer, North Carolina Board of Health

Oscar Corson, 902 Highland Ave., Ambler, Pa., Consulting Engineers, Jack S. Stule Co.

William H. Davis, Jr., 4674 Rockwood Road, Cleveland 25, Ohio, Sewage Plant Operator, City of Cleveland

John Dellasala, 5924 15th Ave., Brooklyn 19, N. Y., Chief Engineer, Delhan Construction Co., Inc.

Peter S. Dow, C.E., 4 W. Wheelock St., Box 83, Hanover, N. H., Professor of Graphics and Engineering, Dartmouth College

Augustus C. Durdin, III, C.E., P. O. Box 216, Rockford, Ill., Design Engineer, Barber Colman Co.

William J. Fajman, 99 Smith St., Roosevelt, L. I., N. Y., Junior Sanitary Engineer, New York State Conservation Dept., Bureau of Marine Fisheries

Edward A. Fulton, M.S., 49 Picardy Lane, St. Louis 24, Mo., Consulting Engineer

Stephen M. Hurley, Jr., 1303 Smith St., Providence 8, R. I., Sanitary Engineer, Rhode Island Dept. of Health

Harold L. Lautz, M.P.H., State Board of Health, Madison, Wis., District Sanitary Engineer

Frederick W. Mallon, Route 2, Disputanta, Va., Sanitary Engineer, Virginia State Dept. of Health

Sidney M. Marks, C.E., 25 Charles St., Liberty, N. Y., Consulting Engineer

Peter S. Marra, 278 First Ave., New York 9, N. Y., Sanitary Engineer, Nussbaumer, Clarke & Velzy

Frank Marriott, 22 Gates Ave., West Caldwell, N. J., President, Marriott Bros., Inc.

Charles D. Mullinex, M.S., H. R. Green Co., Engineers, Bever Bldg., Cedar Rapids, Iowa, Chief, Sanitary Engineer

Orville F. Over, 311 Eagle Road, Wayne, Pa., Student, Univ. of Pennsylvania, Institute of Local and State Government

Burton A. Scheidt, 1700 W. 91 Place, Chicago 20, Ill., Senior Civil Engineer, Sewage Treatment Works, Sanitary District of Chicago

Erwin W. Schrewe, P. O. Box 186, Katonah, N. Y., Civil Engineer, New York City Dept. of Water Supply, Gas and Electricity

John C. Seeger, Jr., M.S., Box 255, Technical Station, Ruston, La., Asst. Professor, Civil Engineering, Louisiana Polytechnic Institute

Marshall A. Shaffer, 1606 East-West Highway,

Silver Spring, Md., Senior Engineer(R), U.S.P.H.S.

Vernon E. Sloulin, County Court House, Sidney, Mont., Sanitarian, Richland County Health Dept.

Frederick E. Smith, 3000-A Dalrymple Drive, Baton Rouge, La., Partner, Carnegie and Smith, Consulting Engineers

E. M. Tomme, 494 West Main Ave., Raymondville, Tex., Supt. and Purchasing Agent, Water and Sewage Dept., City of Raymondville

Wellman D. Turney, 201 S. Naches, Yakima, Wash., Supervisory Sanitarian, Yakima-Kittitas County Health District

Maximilian A. vonBerlichingen, Sc.D., 132 Warren St., West Springfield, Mass., Consulting Engineer

Charles M. White, M.P.H., State Board of Health, Raleigh, N. C., Director of Malaria Control

Wendell C. Wyatt, 932 Sheridan, Salina, Kans., Engineer

Industrial Hygiene Section

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Food and Nutrition Section

Lela E. Booher, Ph.D., 1081 21st Ave., Southeast, Minneapolis 14, Minn., Chief Nutritionist and Director of Nutrition Laboratories, General Mills, Inc.

Paul J. Cardinal, Hoffmann-LaRoche, Inc., Kingsland Road, Nutley 10, N. J., Vice-President in Charge, Vitamin Division

James M. Hundley, M.D., National Institutes of Health, Bethesda 14, Md., Asst. Chief, Laboratory of Biochemistry and Nutrition

Harry W. Johnson, 416 W. South St., Bluffton, Ind., Milk Sanitarian, Bluffton Board of Health

Georgiana Pearson, M.S., 121 West Gilman St., Madison, Wis., Junior Nutritionist, State Board of Health

Public Health Education Section

Creola-Charles Baker, 212 East Third St., Pratt, Kans., Exec. Secy., Pratt County Tuberculosis and Health Assn.

Lynn Byrne, 415 First St., Bismarck, N. D., District Business Manager, Custer District Health Unit

Norman F. Clark, M.A., 55 Shattuck St., Boston, Mass., Student, Harvard School of Public Health

Lucile K. Evans, 311 Broadway Tower, Enid, Okla., Exec. Secy., Garfield and Grant County Tuberculosis Assn.

Grace A. Hale, 501 Madison Ave., New York 22, N. Y., Field Consultant, Planned Parenthood Federation of America

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Mavis G. Martin, R.N., Dept. of Health, St. Thomas, Virgin Islands, Director of Public Health Nursing

R. H. McCutcheon, M.D., 403 W. Broad St., Bethlehem, Pa., Private Practice (Diseases of the Chest)

Thomas A. Morrow, 5215 Beard Ave., South, Minneapolis 10, Minn., Exec. Secy., Minnesota Heart Assn.

Paul W. Schuster, M.S.P.H., 6½ S. Court St., Athens, Ohio, Public Health Education Consultant, Ohio Dept. of Health

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Angela S. Stock, 508 Metropolitan Bldg., East St. Louis, Ill., Exec. Secy., St. Clair County Chapter, Illinois Heart Assn.

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Public Health Nursing Section

Dorothy L. I. Anderson, 3841 S. Garfield, Minneapolis 8, Minn., Supervisor of Nursing, Minneapolis Health Dept.

Barbara J. Arnold, 612 W. 7th St., Topeka, Kans., Public Health Nurse, Topeka City-Shawnee County Health Dept.

Arne L. Bulkeley, M.N., Alaska Dept. of Health, Angoon, Alaska, Itinerant Senior Public Health Nurse

Frances Clarkin, R.N., 1731 Corning, Parsons, Kans., Public Health Nurse, Labette County Health Dept.

Ethel L. Glascock, R.N., Morgan County Health Dept., Jacksonville, Fla., Supervising Nurse

Renilda E. Hilkemeyer, Ellis Fischel Cancer Hospital, Columbia, Mo., Consultant in Nursing Education, State Division of Health and Welfare

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Fort Lee, N. J., Public Health Nurse, Community Service Society

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Hattye C. Robinson, Box 380, Wynne, Ark., Public Health Nurse

Epidemiology Section

Rufine Abriel, M.D., Dr.P.H., 489 Pennsylvania St., Manila, Philippines, Director, Bureau of Quarantine

W. Henry Burger, Box 511, Rome, Ga., Communicable Disease Investigator, Georgia Dept. of Public Health

Lucy Clare Finley, State Dept. of Health "U" Campus, Div. of V.D., Minneapolis, Minn., Chief Representative, Venereal Disease Epidemiological Service, Division of Venereal Disease

School Health Section

Florence E. Denny, M.A., 405 W. Mill St., Carbondale, Ill., Asst. Professor of Health Education, Southern Illinois University

Galen F. Kintner, O.D., Box 407, Lynden, Wash., Optometrist

Mary Ella Lunday Soule, M.A., 585 W. Cloverhurst, Athens, Ga., Professor and Head, Dept. Health and Physical Education for Women

Margaret Woods, Board of Education, Pittsburg, Kans., School Nurse, Pittsburg City Schools

Dental Health Section

Louise W. Hord, R.D.H., 255 Beacon St., Boston, Mass., Director, Forsyth School for Dental Hygienists

Bernard H. Moss, D.D.S., County Line Road, Philadelphia 16, Pa., Student, Columbia University, New York, N. Y.

Mildred E. White, D. H., 22 Pleasant St., Salem, Mass., Dental Hygienist, Sodium Fluoride Demonstration Unit

Medical Care Section

William H. Bartleson, 510 Argyle Bldg., Kansas City 6, Mo., Exec. Secy., Jackson County Medical Society

James R. Gersonde, M.H.A., 425 North Michigan, Chicago, Ill., Manager, Hospital Relations Division, Blue Cross Commission

Meredith B. Hesdorffer, M.D., 404 South 8th St., Minneapolis 4, Minn., Director, Health and Medical Care Division, Council of Social Agencies of Hennepin County

Arthur Holstein, M.P.H., 539 Ohio, Topeka, Kans., Hospital Administration Consultant, Kansas State Board of Health

William R. Power, M.D., 1146 Loraine Ave., Plainfield, N. J., Asst. Medical Director, Health Insurance Plan of Greater New York

Edwin G. Riley, M.D., Ph.D., M.P.H., Box 1313, Bartow, Fla., Area Medical Administrator, United Mine Workers

Colter Rule, M.D., 425 Avenue of the Americas, New York, N. Y., Assoc. Medical Director, Health Insurance Plan of Greater New York

Unaffiliated

Mary Elizabeth McKay, 1801 Clydesdale Place, N.W., Washington, D. C., Information Specialist, Public Health Service, Tuberculosis Division

Nina Ausley O'Hara, 602 Broad St., Wichita Falls, Tex., Secy. to Director of Wichita Health Unit

Dr. Samuel Vaisman, 411 East 69th St., New York 21, N. Y., Cardiologist at Preventive Medical School Service, University of Chile

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EMPLOYMENT SERVICE

The following pages present information for those seeking qualified public health personnel and for those seeking positions in public health.

This is a service of the Association conducted without expense to the employer or employee.

POSITIONS AVAILABLE

Health Officer: Graduate from Class A medical school. Citizen of U. S. No training or experience required. As assistant health officer in Alachua County—headquarters Gainesville, seat of University of Florida, State Field Training Center. Beginning salary $6,000 plus necessary travel at 7½¢ per mile for own car in performance of duty. Thirty days training and orientation on stipend of $375 before accepting position. No license required for two years.

Health Officer for administrative health unit composed of Sumter and Pasco Counties in Southwest Florida, headquarters Bushnell, rural. Graduate of Class A medical school, citizen of U. S. No training or experience; $6,000 beginning salary, plus mileage at 7½¢ per mile. With experience or training $6,600 per year, plus travel.

For above positions, apply to Wilson T. Sowder, M.D., State Health Officer, P. O. Box 210, Jacksonville, Fla.

Physician wanted to head the Tuberculosis Control Program of the Wayne County Health Department; $7,500 to $8,400 a year for a 40 hour week. Write for announcement and application to the Wayne County Civil Service Commission, 2200 Cadillac Tower, Detroit 26, Mich.

Public Health Dentist to direct statewide public health dental program. Must have experience in public health dentistry and possess an M.P.H. degree. Salary range $7,800 to $9,000 plus travel expenses. Civil Service status, retirement. Apply to Harold M. Erickson, M.D., State Health Officer, Portland 5, Ore.

Dental Hygienist position open in the Cincinnati Schools. Minimum salary $2,539. Two weeks vacation with pay, retirement, cumulative sick leave. Write: Mr. Wendell Pierce, 216 East 9th Street, Cincinnati, Ohio.

Public Medical Officers for California's State Public Health Department. Licensed or eligible for license in California. Grade 2: 3 years public health, medical experience in public health agency. (Military preventive medicine or 1 year toward M.S. degree in public health or experience or training in accepted specialty may substitute for two years.) Salary $556 to $676 per month. Grade 1: 2 years practice of medicine and graduation from medical school within last 10 years. Salary $505 to $613 per month. Sick leave, vacation, retirement benefits. Write at once: State Personnel Board, 1015 L. Street, Sacramento, Calif.

Public Health Nurses — Generalized program, salary dependent on qualifications. Apply to Director, McLean County Health Department, 1009 North Park Street, Bloomington, Ill.

Public Health Nurses for generalized program, suburban area. Staff education and students, 5 day week, vacation, sick leave and retirement benefits. Write: Mr. John Davenport, Personnel Director, The Court House, Arlington County, Va.

Health Educator for City-County Unit with 200,000 population, to work with school, civic and other community groups; also to handle radio, publicity, annual reports and other routine departmental activities. Teaching or public health background required. Salary dependent upon training and experience. Write: Chattanooga-Hamilton County Health Department, Chattanooga, Tenn.

Director of Nursing Services. Salary $375 to $464. Five years of professional nursing experience, 3 of which involved responsible supervisory or administrative duties is desired. Graduation from an accredited nursing training school and from a recognized college or university is required. Applicant must be able to secure registration as a nurse in the State of California. In applying please enclose recent photograph and full particulars as to education and experience. Write to: Personnel Department, County of Orange, 644 North Broadway, Santa Ana, Calif.

Public Health Nurses wanted in Stanislaus County, California. Generalized program—40 hour—5 day week. Salary $277–$333 over 5 year period. Retirement, 15 working days vacation, sick leave accumulative to 50 days. Car furnished. PHN certificate and California registration required. Write: George F. O'Brien, M.D., Health Officer, Stanislaus County, P. O. Box 1412, Modesto, Calif.

Public Health Nurse Supervisor: Completion of program of study in public

health nursing, B.S. degree, 2 years experience in generalized public health nursing under supervision. Additional preparation in tuberculosis nursing desirable. Basic and graduate students. Salary $310–$330; 40 hour, 5 day week—city Civil Service. Write: F. H. Underhill, Department of Public Health, Seattle 4, Wash.

Public Health Nurses—immediate opportunity in new health department. Salary $273–$333; five day week; retirement plan; good annual and sick leave benefits. Car furnished or 6¢ per mile. Generalized service except school and bedside programs. Write: Director of Public Health Nursing, Butte County Health Department, Oroville, Calif.

Public Health Physician as Health Officer of a newly established county health department. County of 20,000 on Mississippi River in northwestern Illinois. Salary range $7,200–$9,000. Qualified health officer may start above minimum. Write: G. Alzeno, D.D.S., President, JoDaviess County Board of Health, Stockton, Ill.

Public Health Physician for Regional Office, State Health Department; salary up to $8,712; excellent Civil Service and Retirement System.

Public Health Physician for Assistant Chief, Division of Local Health Services, State Department of Public Health. Salary range $6,900–$8,712; may start above minimum.

Public Health Physicians (2) for Division of Personal Health Services with special reference to Bureau of Epidemiology (General Communicable Disease Control and Venereal Disease Control Sections), State Department of Public Health. Salary range $6,900–$8,712; may start above minimum, depending upon experience.

Public Health Physician for Champaign-Urbana Public Health District. Salary range $7,500–$9,000. Competitive examination planned.

For information on above positions, write Roland R. Cross, M.D., Director, State Department of Public Health, Springfield, Ill.

Public Health Physician as Medical Director of Bi-County Health Department in southwestern Illinois. Important public health job to be done. Salary $7,000. Apply: Dr. Emmett J. Gillespie, Secretary, Alexander-Pulaski Bi-County Board of Health, Cairo, Ill.

Medical Officers wanted in Vermont State Department of Health. Under the new reorganization plan, medical officers are wanted for Chief of Bureau of Health Protection and for Communicable Disease Control Director. Liberal personnel policies including excellent retirement plan. Connection with medical school. Interested applicants should write to Dr. R. B. Aiken, Commissioner, State Department of Health, Burlington, Vt.

Industrial Hygiene Chemist wanted for work in Vermont State Department of Health. Master's degree in chemistry or industrial hygiene and two years experience in industrial hygiene, or bachelor's degree and four years experience. Liberal personnel policies, including excellent retirement plan. Write to Personnel Officer, State Department of Health, Montpelier, Vt.

Nursing Consultants needed by California Department of Public Health in fields of **Public Health, Industrial Hygiene, Maternal and Child Health, Tuberculosis Nursing.** Eligible for R.N. and Public Health Nurse Certificate in California. Salary range $325–$395; sick leave, vacation, retirement benefits. For complete information, write: Recruitment Section Dept. N-33, State Personnel Board, 1015 L Street, Sacramento, Calif.

Public Health Nurses—Salary $220–$264 per month depending on qualifications and experience. Mileage at rate of 6½¢ per mile for personal car. Generalized program for General Health District in northwest Ohio. For information, write: D. L. Warner, D.D.S., Chairman, Board of Health, 410½ Clinton Street, Defiance, Ohio.

Public Health Nurse desiring experience in generalized health program in southern Michigan. Salary range depending on qualifications and experience—$3,000–$3,300. Depreciation and mileage allowance on own car. Four weeks vacation yearly, liberal sick leave. Field training area for public health nurses. Write Medical Director, District Health Department, Hillsdale, Mich.

Sanitary Engineer with Bachelor's degree and at least five years experience in health departments mostly at local level. Administrative research work with national health agency. An opportunity will be afforded to meet and work with public health engineering administrators east of the Rockies. Salary about $6,000. Write: **Box A-75**, Employment Service, A.P.H.A.

ANNOUNCEMENTS

Public Health Positions in Kentucky

We have openings for an Assistant Director of County Health Work, Director of Division of School Health, Director of Division of Preventive Medicine, Director of Division of Public Health Laboratories, Director of Division of Public Health Sanitation, and County Health Officers. The salaries range from $5,200 to $8,500 per annum, plus travel allowance of 7¢ per mile. If interested, contact Bruce Underwood, M.D., State Health Commissioner, 620 South 3rd Street, Louisville 2, Ky.

Fellowships in Public Health

The New York State Department of Health announces the availability of Fellowships in Public Health. The Fellowships are for a period of from one to two years and provide for Residency training as well as for a postgraduate academic year in a school of public health. The Fellowship stipend is $2,400 to $4,200 per year depending on the type of training provided.

Applicants must be graduates of medical colleges approved by the American Medical Association or of foreign medical schools whose graduates have been recommended by the American Medical Association for consideration on the same basis as graduates of approved medical schools in the United States, and must have completed at the time of beginning the Fellowship at least one year's approved internship. They must be eligible for license to practise medicine in New York State and should be interested in and eligible to enter public health service in New York State upon completion of the Fellowship.

Application forms and further information may be obtained by writing to Dr. Franklyn B. Amos, Director of Professional Training, New York State Department of Health, Albany 1, N. Y.

Announcement of U. S. Public Health Service Regular Corps Examination for: Scientists (Entomologist, Parasitologist, and Protozoologist); Sanitarians (Entomologist, Parasitologist, and Protozoologist); Scientists (Bacteriologist) and Sanitarians (Bacteriologist).

Examinations for the above personnel in the Regular Corps of the Public Health Service will be held February 12–14, 1951, in various cities throughout the country. Completed applications must be in the Washington Office by January 15. Appointments are permanent and provide opportunities for career service in research and public health activities. Benefits include periodic pay raises and promotions; liberal retirement provision; medical care; annual and sick leave. Appointments will be made in the grade of Assistant and Senior Assistant, equivalent to Navy ranks of Lieutenant (j.g.) and Lieutenant, respectively. Entrance pay is $4,486 for Assistant (with dependents) and $5,346 for Senior Assistant, including rental and subsistence allowance. Candidates must have had at least 7 years of professional training and experience beyond high school and must have, or expect to receive by November, 1951, a master's or doctor's decree.

For application forms and additional information, write to: Surgeon General, U. S. Public Health Service, Federal Security Agency, Washington 25, D. C. Attention: Division of Commissioned Officers.

Announcement of Regular Corps Examination for Medical Officers, U. S. Public Health Service.

A competitive examination for appointment of Medical Officers in the Regular Corps of the U. S. Public Health Service will be held February 12–14, 1951, in various cities throughout the country. Completed applications must be in the Washington office by January 15. Appointments are permanent and provide opportunities for a life career in clinical medicine, research, and public health. Benefits include periodic pay raises and promotions; liberal retirement provision, medical care, annual and sick leave and the usual privileges extended to officers of the military forces. Appointments will be made in the grades of Assistant Surgeon (equivalent to Navy rank of Lieutenant (j.g.) and Senior Assistant Surgeon (equivalent to Lieutenant) respectively. Entrance pay is $5,686.56 for Assistant (with dependents) and $6,546 for Senior Assistant (with dependents), including rental and subsistence allowance. To qualify for Assistant Surgeon, candidates must have had at least 7 years of professional training and experience beyond high school and for Senior Assistant Surgeon, at least 10 years.

For application forms and additional information, write to: Surgeon Ceneral U. S. Public Health Service, Federal Security Agency, Washington 25, D. C. Attention: Division of Commissioned Officers.

POSITIONS WANTED

Bacteriology, medical and general mycology, parasitology, histology, and biology. Male, 41, A.M., Ph.D. Desires change to a progressive college, university, or medical school. Will consider supervisory position in city or state public health laboratories or educational program. Membership in professional societies. Publications. Three years in private and public schools; college teaching since 1938. Excellent references. Available January, 1951, or within 30 days. Write: **Box C-18**, Employment Service A.P.H.A.

Health Educator, now employed in a local health department as program coordinator. Bachelor of Science, Master of Arts, and Master of Public Health degrees. Teaching experience in High School and State University. Also experience in State and Local Health Departments. Interested in position with official agency, school health work, or teaching in college or university. Write: Box **H.E.-30**, Employment Service, A.P.H.A.

Pediatrician: young woman physician (married with one child), eligible for American Board of Pediatrics. Desires permanent, full-time public health appointment with emphasis on child hygiene. Would like to locate in Southwest in a growing community that would also provide business opportunities for husband who is in the graphic arts field. Write: Box **Ph-22**, Employment Service, A.P.H.A.

Advertisement

Opportunities Available

Please direct all inquiries to Burneice Larson, Director, The Medical Bureau, Palmolive Building, Chicago 11, Ill.

WANTED—(a) Chairman of department of preventive medicine; teaching experience required; university medical school; West. (b) Superintendent of tuberculosis sanatorium; duties include directing tuberculosis control, county health department; East. (c) Director, public health; two township district set-up; university town, Middle West. (d) Chief, bureau of preventive medical services, child maternal health consultant and, also, several public health officers; ranks, salaries depend upon experience; Pacific Coast. (e) Health officer and, also, deputy health officer; town of 100,000 located short distances from university medical center and several large cities; salaries $8,360–$9,200 and $7,200–$8,000 respectively. (f) Public health physician to serve as assistant medical director, one of country's leading companies in industry; key appointment; New York. (g) Assistant director of student health; duties include teaching; southern university. (h) Director, student health department, one of country's largest universities. **PH12-1.**

WANTED—(a) Sanitary engineer, public health engineer and specialist in fields of malaria and insect control; positions of considerable responsibility; South America. (b) Industrial hygienist; duties primarily chemical engineering; southern plant, large industrial company. (c) Director, division of health education, state department of health; duties consist of supervising state-wide program; public health education; Middle West. (d) Health coördinator; county health department; duties include six hours' college teaching; college town; Midwest. (e) Health education consultant; state health department; South. (f) Public health engineer; tropical experience desirable; Arabia. **PH12-2.**

WANTED—(a) Two supervisors and several staff nurses; generalized program, excluding V.N.A. and tuberculosis; college town of 100,000; Midwest. (b) Consultants in maternal and child health nursing, industrial hygiene nursing, tuberculosis and public health nursing; state department of health; West. (c) Assistant director of public health nursing section and, also, nursing education director; state department of health; Rocky Mountains. (d) Public health nurse to supervise public health school program; East. (e) Field supervising nurse and staff nurses; city-county health department; California. **PH12-3.**

Opportunities Wanted

Please direct all inquiries to Burneice Larson, Director, The Medical Bureau, Palmolive Building, Chicago 11, Ill.

DENTIST; graduate training in public health and, also, children's dentistry; 6 years, director, dental division, state health department.

HEALTH EDUCATOR; B.S. (Physical Education and Health), M.A. (Health Education), Columbia University; considerable work toward Ph.D.; 6 years' teaching experience; present rank, assistant professor, Health Education.

PUBLIC HEALTH NURSE ADMINISTRATOR; B.S. (Public Health Nursing); M.A. (Health Education); 6 years, state health department; 3 years, teaching experience; 3 years, supervisor, metropolitan-county health department.

PUBLIC HEALTH PHYSICIAN; M.P.H.; several years rural county health experience; 7 years director, department of health, city of 200,000; Diplomate, American Board of Preventive Medicine and Public Health.

PUBLIC HEALTH NURSE; B.S. (Public Health Nursing); 1 year, obstetrical nursing; 2 years, staff nurse, county health department.

SANITARY ENGINEER; B.S. (Chemical Engineering); 14 years, sanitary engineer, state health department.

HEALTH EDUCATOR; preferably in university or teachers training institution; Ph.D. public health education, Michigan; 7 years head of science department, Junior College; 6 years assistant director State Department of Public Health and Assistant Professor of Public Health, State University.

NEWS FROM THE FIELD

WHO NEWS

Pan American Sanitary Conference

The 13th Pan American Sanitary Conference which has been meeting every 4 years since the organization of the Pan American Sanitary Bureau in 1902, met in Cuidad Trujillo, the Dominican Republic capital, October 2–10. Dr. Manuel A. Robiou, Dominican Secretary of State of Health and Public Assistance was elected Chairman of the Conference by acclamation.

Training of health personnel was adopted as a new program leading to the improvement of public health services throughout the Western Hemisphere. To this end PASB was authorized to aid functioning schools of public health by furnishing technicians, providing training fellowships and subsidizing expansion and improvement of existing facilities. It was further asked to encourage the development of regional training centers and to develop minimum requirements for existing ones, to promote in the various countries the appointment of adequately trained public health personnel, and to recommend to member governments that priority be given to training public health personnel.

Among other questions decided by the Conference was a unanimous decision to make the United States the permanent headquarters of PASB, which constitutes WHO's regional office for the Americas. Dr. Fred L. Soper was unanimously re-elected director of PASB for a 4 year term beginning February 1, 1951.

The Conference was preceded, September 20–23, by a meeting of the Executive Committee of the Pan American Sanitary Organization and by the Directing Council, September 25–30, which is WHO's regional committee. It approved a 1951 budget of nearly two million dollars.

Health Personnel for Korea

As of mid-October, WHO had recruited 13 specialists for health activities in Korea to aid in a UN Program of relief to the civilian population as provided in a Security Council resolution of July 31, 1950. The 13 include 7 physicians, 5 sanitary engineers, and an administrative officer. Seven were on duty by mid-October, while the remainder awaited military clearance. The medical officers included one each from Canada, Denmark, the United Kingdom, and the United States. One engineer was from Peru and two were from the United Kingdom.

Regional Office for Africa

General Francois Daubenton of The Netherlands has been appointed chief of the World Health Organization's newly created Office for Africa which will be situated at Geneva headquarters pending establishment of a regional organization. General Daubenton was formerly a public health consultant with WHO at Alexandria and headed its mission to Ethiopia.

Children's Hospital for Bolivia

The first children's hospital in Bolivia is being erected in the capital city of La Paz. Technical aid is being given by the United Nations Regional Office for the Americas and financial assistance by the UN International Children's Emergency Fund which has made an initial allocation of $75,000 for equipment and medical supplies for the 200 bed hospital. Two Bolivian consultants, Dr. Cecilio Abela, a pediatrician in the Bolivian Ministry of Health, and the architect, Alberto Contreras-Ruiz, are in the United States conferring on plans for building and equipping the hospital. It is planned to have facilities for out-

patient services, laboratories, x-ray, surgical suites, medico-social services, a modern dietary department, and a 50 bed section devoted to infectious diseases.

At the present time there are only 160 hospital beds in all Bolivia for school and preschool children and none for infants. Consultation centers are available for fewer than one of every 20 children. Medical care at childbirth is only rarely available even in urban areas. In most parts of the country one of every three or four babies born dies in the first year of life.

Philippine Rural Health Center

The Philippines Government is opening a rural health demonstration center in coöperation with WHO and the UN International Children's Emergency Fund. Located in a typical rural district within reach of Manila, it will be used to provide practical instruction of health workers from both the capital and the provinces. Dr. Carlos Ferrufino of Bolivia, head of the Medical Division of the Servicio Cooperative Interamericano de Salud Publica, is WHO consultant for the center, assisted by Wilhelmina Visscher, a nurse formerly with WHO's maternal and child health team in Korea.

FELLOWSHIPS IN INDUSTRIAL MEDICINE

The Institute of Industrial Health of the University of Cincinnati offers a limited number of fellowships to qualified candidates for a graduate course in industrial medicine leading to the degree of Doctor of Industrial Medicine.

Any registered physician, graduate of a Class A medical school, who has completed satisfactorily two years of residency (including internship) in a hospital accredited by the American Medical Association may apply. The course consists of a 2 year period of intense preliminary training in the basic phases of industrial medicine followed by one year of practical experience under adequate supervision in industry. During the first two years, fellowship stipends vary from $2,100 to $3,000; in the third year the candidate will be paid for his service by the industry in which he is completing his training. Additional information and application blanks from the Institute of Industrial Health, College of Medicine, Cincinnati 19, Ohio.

STREAM POLLUTION ABATEMENT

Preventing Stream Pollution from Oil Pipeline Breaks is the first of a series of guidebooks to be published by the Ohio River Valley Water Sanitation Commission. The purpose of this pamphlet and other guidebooks that will be published is to give technical data that will aid industry in efforts to prevent stream pollution or comply with legal requirements. The manual outlines ways to minimize pipeline leaks and breaks, organization and training of emergency repair crews, steps to be taken when a break occurs, and how to keep escaped oil from becoming a source of stream pollution. Copies are available from Edward J. Cleary, Executive Director and Chief Engineer, 414 Walnut Street, Cincinnati 2, Ohio.

NEW NAME FOR "SAFETY ENGINEERING"

Safety Maintenance & Production is the new name of the magazine that used to be known as "Safety Engineering." Alfred M. Best Co., Inc., is still the publisher. The change reflects the growth of interest by plant operating personnel in the field of industrial safety methods.

COURSE IN WATER WORKS PROBLEMS

The third Inservice Training Course in Water Works Problems will be held February 15 and 16, 1951, at the School of Public Health, University of Michigan, Ann Arbor. Particular attention will be given to a determination and the significance of toxic substances in drinking water from the viewpoint of the

plant operator. Enrollment is $5. For further information write H. E. Miller at the School of Public Health.

R. E. DYER LECTURESHIP

An R. E. Dyer lectureship is being established in the National Institutes of Health in honor of Dr. Dyer who recently retired as director of the Institutes. The lectureship award will be made not oftener than once annually for an outstanding contribution to knowledge in a field of medical and biological research. The recipient who will deliver a lecture of his own selection at the National Institutes, will be selected by a committee including members of scientific societies in which Dr. Dyer has been active.

The funds collected for this award will be deposited with the U. S. Treasury as a gift to the U. S. Public Health Service. Walter S. Bogley, Bank of Bethesda, Bethesda, Md., has consented to serve as custodian while the funds are being collected. Checks made out to "Trustee, R. E. Dyer Lectureship Fund," should be sent to him.

THE MILITARY'S HOSPITAL LOAD

Richard L. Meiling, director of medical services in the U. S. Department of Defense, recently reported that at the end of September, 1950, military hospitals had 49,408 hospital beds of a potential 112,000 staffed and operating, representing an increase of 14,961 since July 1. At the end of September, 20,908 beds or 42 per cent of those staffed and operating, were vacant. Some 3,000 patients had been evacuated from the Far East Command to hospitals in this country up to September 21.

WARFARIN

Use of Warfarin for the Control of Rats and Mice is a recent publication of the Fish and Wildlife Service, U. S. Department of the Interior, Washington 25, in which is discussed the present knowledge of the use and effectiveness of this new rodent poison also known as Compound 42 or WARF-42. Briefly, the report says that it is "not a miracle poison," but has given good results under the proper conditions. One of its principal advantages lies in the fact that the large amount of the poison required to produce death is such that it is extremely unlikely that human beings would ever eat enough of poisoned bait to be killed.

INDIANA STUDIES CHRONIC ILLNESS

A Commission on Chronic Illness has been formed in Indiana. It will study problems of chronic illness and make recommendations to existing agencies and organizations. The Governor has appointed a 7 man group to serve. It is made up of three physicians, one of whom is the State Health Officer, Leroy E. Burney, M.D., and four non-medical citizens, three of whom are women.

NUTRITION TEACHING AIDS

A new edition of food value charts, useful for teaching nutrition in interviews, has been prepared by the Nutrition Association of Greater Cleveland. The new edition includes 20 3½ x 6½ inch cards, 15 of which illustrate by colored bars the comparative food value of common foods such as milk and coffee, whole milk and skim milk, fish and meat, etc. The 5 new cards are designed particularly for teaching expectant mothers. They show protein and calcium values, amounts of milk in made dishes, food requirements of the pregnant woman versus other women in both foods and nutrients. 50¢ a set; 15 or more, 40¢. Nutrition Association of Greater Cleveland, Room 1016, 1001 Huron Road, Cleveland 15, Ohio.

VIRGINIA'S INDUSTRIAL HEALTH BILL

The Virginia General Assembly has passed a bill authorizing the State Health Department's Bureau of Industrial Hy-

giene to survey health hazards in industrial plants. Such surveys previously had been done only on request of the industry and a few plants had refused entry to state engineers. The Act gives the State Health Commissioner's duly authorized representative right of entry for checking on occupational diseases and taking samples and tests necessary to determine the degree of hazard. It authorizes the Commissioner to recommend reasonable rules and regulations to control occupational disease.

VAN METER PRIZE AWARD

The American Goiter Association again offers the Van Meter Prize Award of $300 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the association in Columbus, Ohio, May 24–26, 1951. The competing essays may cover either clinical or research investigations; should not exceed 3,000 words in length; must be in English, and a typewritten, double spaced copy in duplicate sent not later than March 1, 1951, to the Corresponding Secretary, Dr. George C. Shivers, 100 East Saint Vrain Street, Colorado Springs, Colo.

RHEUMATIC FEVER STUDY CONTINUED

The Department of Preventive Medicine of New York University College of Medicine has received a grant of $10,000 from the Association for the Aid of Crippled Children to continue its study of administrative practices necessary for case finding and follow-up of children with rheumatic fever and heart disease in the Lower East Side of New York. The purpose of this project is to develop in one health center district a rheumatic fever and heart disease program that can be adopted by the New York City Health Department and extended city-wide. The project has been conducted for the past 3½ years on grants from the National Institutes of Health and the New York Heart Association, with the coöperation of the New York City Department of Health and the Board of Education. Further support, to the extent of $20,000 to complete at least one more year of study, has been promised by the New York Heart Association. The study is in charge of Henry E. Meleney, M.D., professor of preventive medicine.

HEALTH OF TROOPS IN KOREA

The Surgeon General, Major General Raymond W. Bliss, of the United States Army, reports that, as of October 20, despite the fact that our soldiers have been living under exceedingly crude conditions of sanitation conducive to the transmission of communicable diseases, no cases of typhoid, cholera, hepatitis, tetanus, or smallpox had occurred among U. S. military personnel. Deaths from battle casualties have also been remarkably low. Among 18,000 men admitted to one hospital there were only 40 fatalities. The Surgeon General attributes the low communicable disease case and battle casualty fatality rates to the planning and efficiency of supply distribution, the Army's preventive medicine program, the high level of professional services, and the laboratory and research activities of the Far East Command.

EDUCATIONAL TOUR IN GREAT BRITAIN

Public health and social workers the world over have an opportunity for a 2 week educational tour of Great Britain, May 5–19, 1951. The threefold purpose of the tour, organized by the Women Public Health Officers' Association, is to become acquainted with British public health and social services, to promote friendly personal contacts among fellow workers of different countries, and to see some of the finest scenery in Britain. The itinerary starting from London includes Cambridge, Lincoln, York, Durham, Edinburgh, Glasgow, Liverpool,

Birmingham, Stratford-on-Avon, and Oxford. Visits will be made to institutions connected with public health, maternity, child welfare, and other social services. The total cost from London for the 2 weeks will be about 30 to 35£ (about $85–$95). Applications including a 1£ deposit, should be made to Mrs. B. E. Shaw, Educational Organizer, Women Public Health Officers' Association, 7 Victoria St., London, S.W.1.

SQUIBB ABSTRACTS MADE AVAILABLE

The *Squibb Abstract Bulletin* has now been made available to both individuals and institutions on an annual subscription basis. Heretofore, its circulation has been limited to about 250 educational institutions and hospitals in this country and to strategic institutions in 21 foreign countries.

The *Bulletin*, now in its 23rd year, is published weekly. It contains abstracts from approximately 500 American and European journals in the fields of medicine, pharmacology, chemistry, and biochemistry, including the *American Journal of Public Health*.

The *Bulletin* is published by the Squibb Institute for Medical Research, whose director is Geoffrey Rake, M.D., medical director of E. R. Squibb & Sons. The bulletin staff is headed by its librarian, Winifred Sewell, and H. L. Alexander and Jean L. Quigley, editor and assistant editor respectively.

Single subscriptions are $25 a year, each additional copy in multiple orders $15. *Squibb Abstract Bulletin*, 25 Columbia Heights, Brooklyn 2, N. Y.

PIERRE THE PELICAN PRINTING DATES

The demands for the *Pierre the Pelican* series of mental health pamphlets, prenatal and postnatal, have become so heavy that a regular printing schedule has been established. Publication dates are the first of each of the months of January, April, July, and October. Orders received on or before these dates can be guaranteed delivery within 60 days. Louisiana Society for Mental Health, 816 Hibernia Bldg., New Orleans 12, La.

GRADUAL INCREASE IN STUDENT NURSES

By October 15 about 44,000 first year student nurses had been admitted during the year to the 1,190 state accredited nurse training schools in the United States, as reported by the National League of Nursing Education. This represents a slight increase over 1949 admissions which were the largest on record in a peacetime year. Applications accepted totaled about 90 per cent of the total numbers for which the schools reported available facilities.

CLINICAL STUDY OF ADMINISTRATION

The Committee on Public Administration Cases was organized in April, 1948, to collect case materials in public administration, with major emphasis on national administration. Financed by funds from the Carnegie Corporation of New York, it is sponsored by the Graduate School of Public Administration of Harvard University, the Maxwell Graduate School of Citizenship and Public Affairs of Syracuse University, the Woodrow Wilson School of Public and International Affairs of Princeton University, and the School of Business and Public Administration of Cornell University.

These four schools believe that case materials that throw light on the actual processes of policy formation, decision making, and program execution are essential to significant advance in the study, teaching, and practice of public administration. The staff of the committee is seeking cases that focus attention at the point where an administrator contributes to these processes. By this clinical approach, light will be thrown on the purposes an organization serves, the environment in which administrative decision-making takes place, and the

processes and interrelationships by which public policy is formulated and made effective.

The committee has an interest in public health administration. Consideration is being given to studying urban district health administration. Send your ideas and suggestions to Harold Stein, Staff Director, 3 Thomas Circle, Washington 5, D. C.

STATE HEALTH OFFICERS MEET

Each of the states and territories of the United States and eight Canadian provinces were represented among the 175 public health officials participating in the 1950 Conference of State and Territorial Health Officers, the Surgeon General of the Public Health Service, and the Chief of the Children's Bureau, October 23–27. At this session Arthur Thomas McCormick awards for meritorious service in public health were presented to: Drs. W. L. Bierring, Iowa State Health Commissioner; A. J. Chesley, Secretary and Executive Officer of the Minnesota Department of Health; Stanley H. Osborn, Connecticut Commissioner of Health; and Felix J. Underwood, Secretary and Executive Officer of the Mississippi State Board of Health. This award was established by the Association in memory of the Health Commissioner of Kentucky, who died in 1943.

Resolutions passed by the Association included recommendations for: a federal department of health with Cabinet status; selection of the United States as the locale for the Fifth World Health Conference; placement of all state health and medical care programs under official state health and medical care agencies; federal aid in meeting health problems created as a direct result of the national defense effort; restoration of cuts in federal funds for hospital construction and state grants-in-aid; intensified efforts—through state and federal legislation and other measures—to provide basic full-time local public health services to all areas of the nation.

New officers of the Association are:

President, Roy L. Cleere, M.D., executive director of the Colorado State Department of Health.

Vice President, Leroy E. Burney, M.D., health commissioner of the Indiana State Board of Health.

Secretary-Treasurer, John D. Porterfield, M.D., director of health for Ohio.

Members of the Executive Committee: Wilton L. Halverson, M.D., director, California State Department of Public Health; R. H. Hutcheson, M.D., commissioner of public health for Tennessee; N. H. Dyer, M.D., director of health, West Virginia; Vlado A. Getting, M.D., commissioner of health of Massachusetts.

NURSING JOURNAL—FIRST 50 YEARS

The American Journal of Nursing celebrated its 50th birthday on October 10, 1950. As a part of the Golden Anniversary Dinner festivities, Mrs. Eleanor Roosevelt received the *Journal's* first "Citation for Distinction in Humanitarian Service." The citation was presented by Assistant Surgeon General Lucile Petri, chief nurse officer of the U. S. Public Health Service. Mrs. Roosevelt was also the principal speaker. Her subject was "The Nurses and the World of Tomorrow," in which she emphasized the nurse's coming role in international understanding.

At the Anniversary Dinner the first presentation of the Mary M. Roberts Fellowship Award was made to Madeline Olga Weiss, R.N., student at the University of Pittsburgh. The Fellowship was created by the Board of the Magazine in honor of Mary M. Roberts, 2nd editor of the *Journal* from 1921 to 1949 and now editor emeritus engaged in writing a history of the *Journal*. It provides a scholarship for a year's study in journalism and is designed as a means of interpreting nursing to the public.

Presiding at the dinner attended by about 700 persons, was the president of the American Journal of Nursing Co.,

Kathleen Leahy, University of Washington School of Nursing. Toastmaster was Otis L. Wiese, publisher and editor of *McCall's Magazine*. Other speakers were Gerda Hojer, of Stockholm, president of the International Council of Nurses, and Nell V. Beeby, present editor of the *Journal*.

The growth of the *American Journal of Nursing* during its 50 years is indicated by its present circulation of 120,000, while its first issue had 550 subscribers. During the same period the number of professional nurses has increased from 3,500 to 506,000. Advertising revenue has increased from $3,300 in the first year to $250,000 in 1949.

CIVIL DEFENSE RECOMMENDATIONS

"United States Civil Defense" is the long awaited report of the National Security Resources Board which summarizes the current thinking on the provision of civil defense in the event of a national emergency. The report is a general one discussing briefly the various phases of civil defense general policies and responsibility, provision of specific services, and organization of local groups. Supplementary technical reports will be published later.

Several principles are outlined:

> Civil defense rests upon self-protection by the individual, extended to include mutual self-protection by groups and communities.
>
> In case of a national emergency precipitated by war all facilities, skills and energies of the nation will be needed because all the people will be affected.
>
> The state is conceived as the "key operating unit" with the federal government providing an overall plan and informational material, and the local government organizing under the state program local defense and mutual aid groups.

The report suggests that health services must be provided by existing agencies augmented by available individual experts. In the recommended plan the state health officer is in charge of civil defense health and medical services. Separate programs and chiefs-in-charge should be provided for the following general services: first aid and ambulance, emergency hospital, casualty, health supplies, blood, laboratory, sanitation, nutrition, medical, veterinary, records, morgue, and health transportation.

Superintendent of Documents, Gov. Ptg. Office, Washington, D. C., 25¢

AMERICAN HOSPITAL ASSOCIATION

At the September Annual Meeting of the College of Hospital Administrators in Atlantic City, the following officers were elected:

President: Frank J. Walter, Superintendent of Good Samaritan Hospital, Portland, Ore.
President-Elect: Ernest I. Erickson, Superintendent of Augustana Hospital, Chicago.
First Vice President: Dorothy Pellenz, Superintendent of Crouse-Irving Hospital, Syracuse, N. Y.
Second Vice President: John C. MacKenzie, M.D., Director of Touro Infirmary, New Orleans, La.

The Association elected two members of the profession to honorary fellowship:

Haven Emerson, M.D., director of health and hospital surveys in many cities of the United States and in Athens, Greece. Dr. Emerson was the banquet speaker on September 17, when he "shared with his listeners some of the memories of a brilliant career and a lifetime devoted to the service of public health"; and

Van M. Hoge, M.D., administrator of the National Hospital Survey and Construction Act and director of special studies and surveys on community hospitals.

NLNE APPOINTS EXECUTIVE DIRECTOR

Agnes Gelinas, president of the National League of Nursing Education, Inc., 1790 Broadway, New York City, recently announced the appointment of Julia M. Miller, R.N., as executive director, to succeed Adelaide A. Mayo, R.N., retired.

COURSE IN PUBLIC HEALTH DENTISTRY

A course for dentists and dental hygienists interested in public health dentistry and public health education will be given at the University of Pennsylvania, January 22–25. Details can be had from the University's School of Dentistry, Philadelphia.

SMALLPOX

"A thousand and forty-three persons died of smallpox in Baltimore in the year 1872. During the winter 10 years later smallpox killed 1,184 persons in the city which had a population of 352,674. In the year 1900 there were 17 cases of smallpox in Baltimore, in 1914 there were 325 cases, 3 of which died; and in 1924 there were 39 cases of smallpox in the city. Dr. C. Hampson Jones, the distinguished Commissioner of Health of Baltimore who served the City Health Department with little interruption from 1896 until his death in 1932, put in force an effective compulsory vaccination program in accordance with the state law that had been passed in the year 1864 during a smallpox epidemic which counted among its victims the President in the White House, Mr. Lincoln. No case of smallpox has been reported in Baltimore City since March 9, 1928." *Baltimore Health News*, September–October, 1950.

PERSONALS

LUCIA G. ALLYN, R.N., has resigned as public health nurse with the Tucson-Pima County Health Unit in Arizona to become supervisor of nursing education, Arizona State Board of Nurse Examiners.

JEAN C. ANTONMATTEI, M.D., formerly employed by the St. Louis, Mo., Health Department, is now director of the health department of Kiowa and Tillman Counties, Okla.

MARGARET ARBUCKLE,† recently having completed work toward her degree from the Medical College of Virginia, is now supervising nurse in the Greenbrier, Monroe, Pocahontas Counties (W. Va.) health department.

WILL H. AUFRANC, M.D.,* has transferred from the venereal control division of the U. S. Public Health Service, where he was assistant chief, to the Office of Health Resources, National Security Resources Board.

F. W. BEHMLER, M.D.,† president of the Minnesota Public Health Conference, has been presented with the Minneapolis Star and Tribune award for leadership in Minnesota, in recognition of his long-continued contribution to the upbuilding of the state.

MORTON I. BERSON, M.D., by arrangement with the Greek Embassy in Washington, is in Greece to perform reconstructive surgery operations on maimed Greek war veterans and to demonstrate various technics in this surgery in the country. He is also lecturing on the subject at the University of Ankara in Turkey.

E. M. BLUESTONE, M.D.,† director, Montefiore Hospital, New York City, has been elected vice-president of the American Association of Hospital Consultants.

LEONARD BRADLEY, M.D., professor of Hospital Administration at the University of Toronto, has succeeded HARVEY AGNEW, M.D., as executive secretary of the Canadian Hospital Council and Editor of the "Canadian Hospital."

HOWARD CADWELL, M.D.,† who recently completed work for the degree of Master of Public Health in the Columbia University School of Public Health, has joined the New York State Health Department as a resident in public health practice (Epidemiologist in Training).

JAMES W. CHAPMAN, M.D.,* has resigned as health officer of state district 15 with headquarters in Carlinville, Ill., to become health officer of Morgan County, where his office is in Jacksonville.

EINOR H. CHRISTOPHERSON, M.D., of San Diego, Calif., has been appointed executive secretary of the American Academy of Pediatrics to succeed CLIFFORD GRULEE, M.D., when he retires next July. From 1942–1946, Dr. Christopherson was attached to the office of Inter-American Affairs in Washington.

ESTHER M. CLOSSON, M.D., has been named assistant health officer of the Tucson-Pima County Health Unit in Arizona succeeding EDWIN WEST, M.D., who has been called into service with the U. S. Marine Corps.

JOHN C. CUTLER, M.D.,† has returned to the United States after 2 years on loan by the Public Health Service as consultant to the

* Fellow.
† Member.

Indian Government and head of a World Health Organization venereal disease team which demonstrated latest penicillin techniques in the treatment of syphilis. He will enter the School of Public Health, Johns Hopkins University.

VERA S. EMANUEL, M.D., associate physician in the Division of Medical Services, New York State Health Department, has resigned to enter private practice in Nassau County, N. Y.

M. R. MORAN, formerly health education consultant with the Kanawha-Charleston (W. Va.) Health Department, has resigned to join the health education staff of the American Dental Association in Chicago. He has been succeeded by D. L. GRIFFITH who has just completed 3 months field training at that unit.

RUSSELL LANDRAM HADEN, M.D., recently head of the Department of Medicine at the Cleveland, Ohio, Clinic, has been appointed medical director of the Red Cross National Blood Program. He succeeds LOUIS K. DIAMOND, M.D., of the Harvard Medical School faculty, who returns to his duties at Harvard and at Children's Hospital in Boston where he is director of the blood bank and research laboratory.

ALICE V. HAGELSHAW, formerly public health nursing consultant, California State Department of Health, has been appointed assistant professor of public health nursing, School of Public Health, University of Michigan, Ann Arbor.

C. C. HARVEY, M.D., a retired Army Colonel, became health officer for Henderson County (Ky.), on September 1.

ALFRED A. HELLAMS, M.D., has been named director of the Division of Mental Hygiene of the Oklahoma State Department of Health to succeed CHARLES A. SMITH, M.D., who resigned to become head of the Central State Hospital, Norman.

JOHN M. HENDERSON,* professor of sanitary science, Columbia University School of Public Health, has returned from a 3 month visit to Brazil, Argentina, and Chile, where he served as visiting consultant and lecturer to schools of public health and sanitary engineering.

GARFIELD HOWARD, M.D., recently chief medical officer for the Veterans Administration in Corbin, Ky., is now health officer in Whitley County, Ky.

E. HERNDON HUDSON, M.D., on a year's leave of absence as director of the Ohio University Health Service at Columbus, has been named director and chief medical adviser of a World Health Organization bejel control project in Iraq.

SALLE JEFFRIES, chief consultant in Nursing, Bureau of Indian Affairs, Department of the Interior, recently retired after 21 years of service.

BERNARD M. KAPELL, formerly assistant national director of the Military Welfare Service of the American Red Cross, has joined the staff of the American Heart Association as a field consultant in the Public Health Division. He succeeds WALTER S. PAGE, JR.,† who has been recalled to the service as a Major in the U. S. Army with the 43rd Infantry Division stationed at Camp Pickett, Va.

ABRAHAM M. LILIENFELD, M.D.,† is now health officer of the Southern Health District of Baltimore, Md.

HUBERT T. MARSHALL, M.D.,† health officer of the Eastern Panhandle district comprising Beckley, Jefferson, and Morgan Counties (W. Va.), has resigned to accept a position with the United Mine Workers Welfare and Retirement Fund in St. Louis, Mo.

HUGH MCCULLOCH, M.D.,† medical director of the American Heart Association's Council on Rheumatic Fever since January, 1949, has been appointed medical director of the Chicago Heart Association.

HAZEL OWEN, R.N.,† loaned to the department by the U. S. Public Health Service, is supervising nurse of the Peoria (Ill.) City Health Department.

JUAN ANTONIO RUBIO PADILLA, M.D., has been appointed Minister of Health of Cuba, succeeding CARLOS RAMIREZ CORRIA, M D.†

ELNA I. PERKINS,* recently instructor in anatomy and physiology at the Hartford (Conn.) Hospital School of Nursing, has been appointed director of health education, Norfolk County (Mass.) Health Association.

JEAN MARY READ, R.N., formerly assistant head nurse, Beth Israel Hospital, Boston, has been appointed Director of Psychiatric Nursing at Adelphi College, Garden City, N. Y.

JOHN F. ROACH, M.D., professor and director of the department of radiology, Albany College, has been appointed medical defense consultant to the New York State Health Department in the radiological aspects of atomic warfare.

LEWIS C. ROBBINS, M.D.,* formerly of the U. S. Public Health Service, is now medical officer in charge of Public Health Mission, Economic Cooperation Administration, Special Technical and Economic Mission to Indo-China, relieving JOHN B. GRANT, M.D.*

LEONA RUBBELKE, R.N.,† maternal and child health consultant in the North Dakota Divi-

sion of Public Health Nursing, has resigned to report for duty with the Territorial Department of Health in Hawaii as nurse consultant in the Bureau of Maternal and child health.

ELIZABETH M. SANBORN, former director of finances and public relations for the Chicago Y.W.C.A., is the new secretary of the American Hospital Association's Committee on Women's Hospital Auxiliaries.

GORDON E. SAVAGE, M.D.,† health commissioner of Greene and Fayette Counties (Ohio), has been made health officer of the southwest district office of Ohio Department of Health, comprising 15 counties.

DALE E. SCHOLZ, M.D.,* health officer of the Lawrence-Wabash Bi-County Health Department, has resigned to attend Northwestern University for 27 months, specializing in public health law and other legal matters.

JANET A. SCOTT, recently retired as executive secretary of the Buffalo and Erie County Tuberculosis Association, after 35 years of service, was succeeded by V. J. SALLAK,† who has served as her assistant since 1949 and was formerly personnel director and field secretary of the National Tuberculosis Association.

WILLIAM H. SEBRELL, M.D.,* has been appointed director of the National Institutes of Health of the Public Health Service, succeeding ROLLA E. DYER, M.D.,* whose retirement from the Service became effective on October 1. Dr. Sebrell was formerly director of the Services' Institute of Experimental Biology and Medicine.

FRED L. SOPER, M.D.,* was unanimously reelected director of the Pan American Sanitary Bureau for a 4 year period beginning February 1, 1951, by the thirteenth Pan American Sanitary Conference meeting in October.

MARJORIE SPAULDING,† nurse officer of the U. S. Public Health Service, has been loaned to serve as director of the division of public health nursing with the North Dakota State Department of Health.

EMIL STRATTON, M.D., who recently completed his internship at University Hospital, Oklahoma City, has been named director of the health department of Caddo, Stephens, and Jefferson Counties, Okla.

HERMAN F. STRONGIN, M.D., who completed his public health work at Yale University in June, has been appointed director of health in North Adams, Mass., succeeding ANTONIO P. MILONE, M.D.†

ALICE M. SUNDBERG, who has been assistant director of the Bureau of Public Health Nursing, Baltimore (Md.) Health Department, since October, 1946, was promoted to director succeeding JANE B. LAIB,† retired after 40 years of continuous service in the City Health Department.

KARL K. VAN METER, formerly general manager of the New York Red Cross fund raising campaigns, has been named executive director of the United Cerebral Palsy Association, succeeding PAT ROONEY, resigned.

E. RICHARD WEINERMAN, M.D.,† associate professor of medical economics and head of the department of medical care administration, School of Public Health, University of California, has been named medical director of the Permanente Health Plan of the Kaiser Manufacturing interests which has hospitals in 5 cities in California and 1 in Washington.

MURIEL BLISS WILBUR, PH.D.,* formerly executive secretary of the Greater Hartford Tuberculosis and Public Health Society, Inc., is now executive secretary of the Rheumatic Fever Services Committee of the Massachusetts Heart Association.

ELEANOR WISE is public health nurse of the Lewis County (W. Va.) Health Department, thus filling a long standing vacancy.

HUNTINGTON WILLIAMS, M.D.,* who was recently reappointed Commissioner of Health for Baltimore, Md., for a 6 year term, has been appointed adjunct professor of public health administration, Johns Hopkins School of Hygiene and Public Health.

CHANGES ON THE STAFF OF THE UNIVERSITY OF MINNESOTA SCHOOL OF PUBLIC HEALTH:

LILLIAN R. ELVEBACK,† formerly instructor in biostatistics at the Columbia University School of Public Health, as assistant professor of biostatistics.

VIRGINIA R. FIELD,† formerly assistant professor in public health nursing at Wayne University, as assistant professor in public health nursing.

MARGERY E. LEWIS, formerly of the Adams County Health Department (Ill.) as part-time instructor in public health nursing.

FRANKLIN H. TOP, M.D.,* formerly director of the Herman Kiefer Hospital, Detroit, as professor of epidemiology.

DEATHS

C. SIDNEY LEETE,† principal sanitarian, Bureau of Milk and Restaurant Sanitation, New York State Department of Health, died October 8 (Engineering Section).

WILLIAM W. MCFARLAND, M.D.,* of Pittsburgh, Pa., died in October (Public Health Education Section).

B. M. STEVENSON, M.D.,† of Camden, Ark.,

* Fellow.
† Member.

died recently (Health Officers Section).

CHARLES H. WERNER, M.D.,† St. Joseph, Mo., died September 17 after an illness of two years (Unaffiliated).

CONFERENCES AND DATES

Coming in December, January, and February:

American Association for the Advancement of Science. Cleveland, Ohio. Dec. 26–30.

American Economic Association, Chicago, Ill. Dec. 27–30.

American Political Science Association. Washington, D. C. Dec. 28–30.

American Society of Heating and Ventilating Engineers. Philadelphia, Pa. Jan. 22–25, 1951.

American Statistical Association. Congress Hotel. Chicago, Ill. Dec. 27–29.

American Water Works Association:
New York Section Luncheon Meeting. Park-Sheraton Hotel. New York, N. Y. Jan. 16, 1951.

Puerto Rico Public Health Association. San Juan. Feb. 14–17, 1951.

Sixth Industrial Waste Conference. Purdue University. Lafayette, Ind. Feb. 21–23, 1951.

Texas Public Health Association. Galveston. Feb. 19–21, 1951.

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